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Asia Sustainable Forest Management Network

**POLICY DIALOGUE ON
NATURAL FOREST REGENERATION
AND COMMUNITY MANAGEMENT**

Workshop Proceedings
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EAST-WEST CENTER

We have been living in the forest for so long, our heart tells us that this is our land and we must stand up for it. If they continue to extract logs and timber from our forest, our lives will wither like leaves on the trees, like fish without water.

— Chief Along Sega, Penan tribal leader,
Uma Bawang, Sarawak, East Malaysia

We are people of the jungle. When we hunt, our bed is made of leaves, our shelter is our cape, our food is the fruit of the forest. We are happy if we have money but just as happy if we don't.

— Mani Lal, Gurung tribal honey hunter, Nepal



The environmental world view of the Worli tribe, Western Ghats, India, as shown on a wall painting depicting forest spirits, hunting, and harvesting activities.

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The epigraphs on page ii are from the following: Andre Carothers, "Defenders of the Forest," *Greenpeace*, July/August 1990 (Malaysia); and Eric Valli and Diane Summers, "Honey Hunters of Nepal," *National Geographic*, November 1988 (Nepal).

PREFACE

In the early 1980s, Ford Foundation program officers began facilitating exchanges between small groups of Asian foresters, social scientists, non-government organization (NGO) staff, and donors to accelerate learning concerning community forest management. Small workshops and cross-visits were organized to share ideas regarding problems and solutions to forest degradation. Gradually, working groups began forming in selected countries, often documenting indigenous forest management systems and developing and monitoring small pilot projects. As working group members gained experience in designing experimental programs and communicating with national planners, field-level learning began influencing national forest management strategies in some nations. New ideas began to be discussed regarding mechanisms to legally empower communities as custodians of public forest territory.

An informal meeting of representatives from a number of Southeast Asian working groups was held in Pattaya, Thailand, in 1987; however, it was not until late January 1992 that the first formal meeting of the Asia Sustainable Forest Management Network was held in Bangkok. With funding from the Rockefeller and Ford Foundations, national working group teams received small grants to initiate studies documenting patterns of forest regeneration under community protection. At the time, land satellite data from eastern India was indicating hundreds of thousands of hectares of once-degraded forests were regenerating rapidly under community management. During the Bangkok meeting, study designs were developed, often utilizing participatory rapid appraisal methods to examine the effects of community forest management in other parts of Asia. In many cases, sites were selected where indigenous or spontaneous community forest management initiatives were present. There was a growing consensus that it was important to seek guidance from communities that were already pioneering methods to protect natural forests and that possessed systems for productive and sustainable resource utilization.

Over the next year, research teams spent months living in Asian forest communities, documenting local efforts to protect and manage

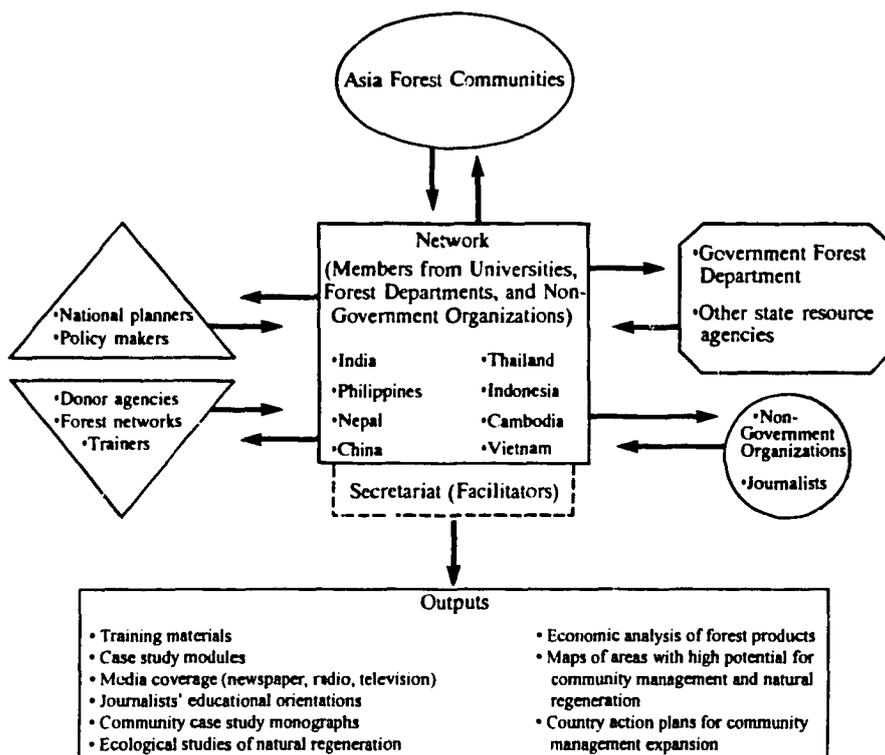
forest lands. These studies illuminated sophisticated indigenous patterns of forest use and often-extensive knowledge of species composition and forest succession patterns. The research also indicated the extent to which rural people had been formally and legally marginalized in the management of state lands, as well as their desire to reestablish their authority over the resources upon which their survival depends.

Network members presented preliminary findings from their first round of research at the second gathering of the Asia Network, held in Ciloto, West Java, Indonesia, in April 1993. The studies dramatically illustrated the powers of ecological regeneration in even highly disturbed forests when under community protection, and extensive knowledge regarding natural forest manipulation to enhance productivity. However, the research also documented the rapid process of forest degradation occurring in many parts of Asia and the pressures breaking down community resource use institutions.

In August 1993 the Network Secretariat published the initial findings of the Thailand, Philippines, and Indonesia research teams in Network Reports 2, 3 and 4.¹ These reports formed the background documentation for the Policy Dialogue on Natural Regeneration and Community Protection, held in Honolulu in March 1994. Its objective was to bring donors and Asian policy makers together with the country working groups to review current experiences with community forest management and natural regeneration as a strategy for stabilizing the vast areas of degrading natural forests throughout Asia. During the meeting, each country team developed a strategic action plan to systematize and accelerate the devolution of authority to community groups as managers of public lands. In addition, the meeting provided an opportunity to chart future directions for the Network. Participants agreed that the Network should broaden its scope to respond to the needs of additional Asian nations. The Network Secretariat's mandate to facilitate exchanges and learning among Asian forest communities, national forest management agencies, planners and policy makers, NGOs, and donors was strongly reaffirmed. It was also agreed that in the future, additional emphasis should be placed on informing the wider public internationally regarding the inherent forces driving forest degradation and the exciting opportunities communities offer in stabilizing forest resources. Print, radio, and video media will be accessed in the future through the inclusion of environmental journalists, writers, and filmmakers in the broader Network (see Figure 1). The Network Secretariat hopes

Figure 1.

Asia Sustainable Forest Management Network



to continue to work closely with affiliated organizations including East-West Center, Center for International Forestry Research, World Resources Institute, Sustainable Development Institute, Biodiversity Conservation Network, Regional Community Forestry Training Center, and other organizations working on related issues.

In the coming year the Network Secretariat hopes to help the Indian National Support Program for Joint Forest Management by assisting the country team to design and field-test rapid diagnostic mapping tools for delineating community forest management territories in five India states. Secretariat staff will also work with the newly established Vietnam country team in designing a research program in Cuc Phuong National Park and the upper Da River watershed. The fourth meeting of the Network will be held at Cuc

Phuong in October 1994. A research design workshop will also be held with the new China research team in southern Yunnan Province in late 1994.

EXECUTIVE SUMMARY

The Proceedings of the Policy Dialogue on Natural Forest Regeneration and Community Management explore how the process of forest degradation in Asia can be reversed. Part I reviews the current conditions of forests in Thailand, the Philippines, Indonesia, and India, as presented by senior policy makers at the meeting. This section also summarizes panel discussions concerning experiences with natural regeneration and the roles communities are playing in forest protection. Part II describes preliminary strategic action plans formulated by each participating country team to accelerate community protection and management in their respective nations. The proceedings close with a review of strategies offered by donors to enhance their assistance programs for community forestry.

Throughout the Asia region, much of the natural forest lies in various ecological states of deterioration. Up to 50 percent of India's land area, or an estimated 175 million hectares, can be classified as "wastelands." Approximately 46 percent of Indonesia's vast forest lands have been degraded through logging, mining, migrant farming, and fires. Less than 3 percent of the Philippine's land area remains covered by relatively undisturbed natural forests. The situation is similar in other Asian countries. Given current economic and demographic pressures, further destruction will continue unabated unless strategic interventions are taken over the remaining course of this decade.

Meeting participants agreed that to stabilize Asia's critical uplands and forests, forest departments will need to forge alliances with local communities, empowering them to help manage these vulnerable resources. Once open-access public forests are protected under decentralized community controls, even much of the badly degraded forest will regenerate naturally through secondary succession. To enable this process, policy makers, donor organizations, NGOs, and researchers need to shift their priorities away from capital investments in plantation reforestation projects and "magic bullet" technologies. The focus must turn to the needs of growing local populations of disempowered forest and migrant communities. If resource conflicts

are to be resolved and sustainable use practices established, these communities—which are important agents of forest degradation—need to be formally integrated into resource management policies and practices.

Growing evidence from Asia indicates that rural communities are not only capable of developing sustainable use systems in partnership with government, they are also increasingly demanding the authority to do so. The stakes are high, as these communities' survival is often dependent upon maintaining the natural resource base. Forest communities are making the most promising headway in protecting and rehabilitating forests where the political environment has supported village-level efforts (e.g., in eastern India and northern Thailand), creating a more favorable climate for community initiative. Extension of international and non-governmental support to upland forest and tribal communities can encourage them to take on management responsibility in exchange for secure usufruct rights that respond to their domestic needs. The development of new partnership alliances between communities and forest agencies is proving a win-win solution. Due to demographic and other sociopolitical realities, it is increasingly apparent that in Asia only resident communities are in the strategic position to reverse the trend of forest degradation and stabilize these declining ecosystems by establishing sustainable management regimes.

Part I *Review of Current Conditions*

RECASTING THE PROBLEM

In his opening statement, Michel Oksenberg, president of the East-West Center, noted that the forces driving deforestation in Asia are complex and need to be "recast" to better illuminate both problems and possible solutions. A. Terry Rambo, director of the EWC's Program on Environment, stated that the fundamental resource conflicts between local communities and the state are apparent not only in Asia, but also in other parts of the world, as evidenced by the recent peasant uprising in Chiapas, Mexico. He stressed the need to understand the relationships between resource degradation and social unrest, which threaten both the environment and the region's social and economic stability.

According to Network Director Mark Poffenberger, the world's tropical forest ecosystems have suffered from extensive, successive disturbances over the past century. Today their existence is threatened in many developing nations. The forces driving forest destruction have been poorly understood. While it is statistically possible to calculate the estimated rate of deforestation in hectares per day, month, or year, this exercise conveys the impression that forests are present today and gone tomorrow. Although some forests do disappear abruptly through clear-felling or devastating fires, most Asian forest ecosystems instead suffer a *sequential process* of degradation. This occurs through a series of human interventions that result from a lack of management controls. While it is convenient to lay the blame for deforestation on a specific user group, whether it be loggers, swidden farmers, or women fuelwood headloaders, more often there are multiple actors involved in disturbing the same tract of forest at different points in time. Hundreds of millions of hectares of forest land in South and Southeast Asia are overexploited through selective logging, illegal cutting, grazing, migrant farming, and fire. Poffenberger reported that as a consequence most of Asia's forests are degrading over time, "ratcheting down" biologically as they lose biomass, diversity, topsoil, and their complex structural and functional integrity.

Attempted solutions to the problems of deforestation are often misguided and ineffective. Too commonly they are defined in terms of capital investments, state-of-the-art technologies, and enhancement of modern professional capacities. Yet the huge foreign investments and new technological fixes of past decades have had relatively little impact, as witnessed by unabated rates of forest degradation. A recent World Bank report (Ritchie 1992) noted that after spending US\$1.5 billion on forestry projects in Asia between 1979 and 1990, "the Bank's investments have had a negligible impact on borrowers' forestry sectors as a whole." Even in the well-funded, best-protected "Project Tiger" parks in India, the amount of forest land classified as degraded increased an estimated 186 percent between 1983 and 1989, while good quality forest, with canopy closure of over 40 percent, declined by 50 percent during the same period (Cherail 1993). If the most intensively "managed" and heavily funded wildlife parks in India are deteriorating at such a relentless pace, reserve and protected forests with far fewer guards and much smaller budgets appear to have even less chance of surviving.

Forest management systems evolving since the nineteenth-century colonial era are still largely premised on models of unilateral, centralized state control; their primary objective has been timber extraction. With the rapid expansion of human populations and the transformation of national politics and economies, however, the world has changed dramatically.

Public forest lands cover anywhere from 25 to 75 percent of Asian countries' total land areas. Currently, most South and Southeast Asian governments still possess sole legal rights to virtually all of their national forests. The forest agencies entrusted with the protection of these lands are composed of only thousands or tens of thousands of staff, most of whom are office-bound and heavily burdened with administrative duties. Despite their limited field time, these staff are responsible for monitoring the forest use of tens of millions of rural inhabitants and migrants, as well as loggers and livestock. The ongoing failure to stem forest degradation Asia-wide indicates that forest departments alone are simply incapable of such an unrealistic mandate.

REORIENTING THE SOLUTION

The Asia Sustainable Forest Management Network has identified a growing number of foresters and planners who acknowledge that the most promising strategy to stabilize forest resources may be through the creation of partnerships between rural people and forest agencies. Network field studies indicate that when given clear rights and responsibilities, disempowered forest communities are proving they can work as allies with government field staff and NGOs to establish effective access controls and install regulated forest use systems. This strategy, however, implies a massive transfer of responsibility to hundreds of thousands of forest communities throughout the Asia region.

A strong political commitment is essential from government if it expects to successfully devolve and delegate authority to rural communities. Often this transfer will require a shift away from powerful, private commercial interests at the risk of alienating them. Many Asian forest departments are just beginning to understand the advantages of working with forest communities to build coalitions that can protect and rehabilitate forests. Yet government agencies tend to lack experience in dealing directly with forest communities. There is even less precedent in these agencies with cooperative endeavors involving rural people as equal decision makers and partners. Past alliances of foresters have been primarily limited to industry. Techniques, procedures, and institutional norms for decentralizing forest management are not yet well developed or tested.

Nonetheless, the transition is under way and, more than likely, will be irreversible. Certain governments are starting to reorient their focus from absorbing large loans for technically oriented plantation projects to addressing the more fundamental institutional and political problems driving forest destruction. While the process urgently needs to be accelerated, Asian foresters, NGOs, and social scientists are collaborating and making positive headway in adapting their strategies to meet a changing forest management environment entering the twenty-first century.

Network research has established that the strength behind these

initiatives is emerging in the village. Many thousands of communities in Asia today are taking action to protect their threatened natural forests. In India, Thailand, Philippines, and Indonesia, tribal communities are building upon traditional resource management practices as well as developing new strategies to gain authority over forest lands and water. Not surprisingly, these grassroots environmental efforts are most common in the poorest regions, where villagers are suffering most from growing resource scarcities. In India's eastern tribal belt, Santhals and other tribal people are dependent on forest tubers as a staple food for six months of the dry season each year. If the forest cannot be stabilized to meet such compelling subsistence needs, its disappearance may eventually dismantle entire villages, forcing them to migrate to urban slums and destroying their economy, community, and traditions in the process.

ASIAN REGIONAL OVERVIEW

Asia's forests are critically important. Natural forests directly contribute to the survival of over 100 million of Asia's poorest tribal people. Another 500 million rural people heavily depend on forest-based livelihoods (Ritchie 1992). More than one billion lowland farmers in Asia rely on upland forests and the watersheds they protect to control flooding and provide a stable supply of irrigation water. Asia's vast population of city dwellers is dependent on water and electrical power originating far upstream. The region's forests are also distinctive for their rich biological diversity. The tropical moist forests of Southeast Asia alone possess 20–25 percent of the earth's plant species.

Yet, Asia's forests are among the world's most threatened, noted Network Coordinator Betsy McGean. Pressures on the forests stem from the burgeoning human populations that surround, inhabit, and directly depend on them, as well as from the region's rapid economic growth. These forces are amplified by inappropriate government policies that fail to ensure sound forest management. Asia's population is expected to climb sharply, from the current 2.8 billion to 4.8 billion by 2025.² Today it is estimated that 80 percent of all Asian timber is used as subsistence fuelwood (Lean and Hinrichsen 1992).³ Furthermore, energy demands in Asia are doubling every 12 years.

In upland areas of the Philippines, Vietnam, and other mountainous forest regions with high concentrations of ethnic communities, watershed degradation is perpetuating a counterproductive migration cycle. Due to deteriorating upland conditions, communities are forced to migrate to the lowlands. Simultaneously, fast-growing lowland communities are flooded out from upland ecological destruction and have nowhere to move but to the marginal uplands.

Forest degradation causes obvious environmental and economic destabilization to the larger society. Its potential to create social and political turmoil is less realized but equally threatening. Past insurrection movements in Asia have often been centered in upland forest areas. Disempowered tribal and migrant communities in conflict with the government over access to critical resources may be driven

to armed resistance. Conflict frequently results in further land alienation and acceleration of forest destruction.

At present, nearly one-third of South and Southeast Asia is still covered by forests. But these ecosystems are disappearing at an estimated rate of 3.5 million hectares annually.⁴ Even more significant in scale, hundreds of millions of hectares are being degraded annually through excessive cutting, hacking, overgrazing, burning, and other human-induced activities. The era of unsustainable timber extraction is coming to a close. Forest stocking levels in India, Thailand, and the Philippines are already so exhausted that these countries are now increasingly dependent on imports. Even with billion-dollar investments in plantation establishment, it is projected that Asian timber and forest export revenues will decline steeply from 1988's US\$8.25 billion, and reverse to become import expenses of an estimated US\$20 billion by the year 2000 (Ritchie 1992).

Unfortunately, aside from gross deforestation statistics, little information is collected regarding processes and rates of biological change within Asia's forest ecosystems. A brief review of national forestry statistics for select countries dramatically illustrates the extent of the problem.

NATIONAL OVERVIEWS

Summaries of the current conditions of national forest resources were presented by Romeo Acosta from the Department of Environment and Natural Resources in the Philippines, eminent Indonesian forest ecologist Kuswata Kartawinata, Komon Pragtong from the Thai Royal Forest Department, and Arvind Khare, director of the Indian Society for the Promotion of Wastelands Development.

Philippines

The rich tropical forests that covered one-half of the Philippines in 1934 were reduced to 20 percent by 1990. According to Korten (1993), less than 3 percent of the Philippines is currently under old-growth forest. Driven by massive logging (particularly accelerated in the 1970s and 1980s), combined with the conversion of forests to agricultural land by a swelling rural population, this loss of forest cover continues to extend to even the steepest and most fragile watersheds. Of the nation's 15 million hectares of public forest land, an estimated 10–14 million hectares are degraded to varying degrees. Romeo Acosta commented that in the post-Marcos era, hundreds of millions of dollars have flooded into the country in the form of environmental loans. Most of these resources have been allocated for contract reforestation of such fast-growing species as *Gmelina arborea* and *Albizzia falcataria*. But such programs have been highly disappointing in their poor rates of survival, inability to cover large areas, and lack of responsiveness to the needs of the 13–18 million people who inhabit the uplands.

Indonesia

In Indonesia, 144 million hectares of land are legally designated forests, representing almost three-fourths of the nation's land area. Kuswata Kartawinata noted that by 1989, nearly one-half of the country's forests had been leased out to 562 timber concessions, and 50 percent of all concession areas had already been logged. Local population pressures have contributed to the progressive forest

disturbance. Indonesia's population is currently growing at a rate of 1.7 percent annually. This growth contributes three million new citizens each year, 64 percent of whom are rural and often forest-resource dependent. Kartawinata explained that currently approximately 44 percent (67 million hectares) of Indonesia's total forest area has been transformed to logged-over or secondary forest (45.6 million hectares), swidden (11.4 million hectares), or grasslands (10 million hectares). While the government proposes an ambitious target of reforesting 8 million hectares with fast-growing species under its industrial forestry scheme (HTI) and other programs, no concrete rehabilitation plans exist for the remaining 59 million hectares of degraded forest lands. Strategies to similarly reforest this additional area through plantations would be highly impractical, requiring at least 66 years with an investment of \$300 million annually. Indonesian planners, scientists, and NGOs are increasingly convinced that more rapid, less-costly alternatives should be identified to regenerate degraded forests in ways that respond to local communities. Indonesia's second 35-year National Plan, beginning in April 1994, might seriously consider a broad-based program of forest rehabilitation through natural regeneration under community protection.

Thailand

Komon Pragtong, director of the Community Forestry Branch of the Thai Royal Forest Department, noted that in forest coverage Thailand was 53 percent in 1961, but had declined to 27 percent by 1991. Of a total 23 million hectares of forest land, it is estimated that 9 million are in an advanced stage of degradation, and up to another 7 million hectares lie in various earlier phases of degradation. In response, between 1987 and 1991 government plantation reforestation schemes have replanted 27,500–45,000 hectares per year—less than 1 percent of the degraded lands in need of rehabilitation.⁵ Considerably more promising was the belief of Lert Chuntanaparb, a leading Thai forest scientist, that if forests were allowed to naturally regenerate under effective community protection, it would only require 14 years for 80 percent of the forest land to recover.

India

Arvind Khare reported that the Indian subcontinent faces an equally daunting challenge in reversing the process of forest

degradation. Recent estimates indicate that "good" forests may cover less than 10 percent of the national territory. He noted that even where forest canopy density exceeds 40 percent (the official Indian indicator of healthy forest cover), forest productivity may be as little as one-eighth its capacity due to continuing disturbance from grazing, cutting, and fire.⁶ While the productivity of India's natural forests is steadily declining, demands grow as the nation's population approaches one billion people. India, already the largest wood consumer in the world, uses over 90 percent of its wood products as subsistence fuel.

Competition between rural communities, commercial interests, and government agencies for scarce forest resources in Asia has historically resulted in countless social conflicts and tensions. Hundreds of millions of dollars invested in private and community forest plantations in the 1970s and 1980s have failed to slow natural forest degradation or respond significantly to local domestic needs for fuel, fodder, and other biomass and non-timber products. Instead, eucalyptus and other fast-growing species continue to end up in urban markets, either sold for construction purposes and pulp, or lying unused and wasted due to regional market gluts. The panelists concluded that new approaches were desperately needed to ensure the productive and sustainable management of Asia's natural forests. Strategies need to emphasize natural regeneration under community management, rather than large-scale commercial timber exploitation or monoculture plantations.

PANEL: NATURAL REGENERATION IN FOREST MANAGEMENT

The panel on natural regeneration comprised Pat Dugan, Alex Moad, and Ajit Banerjee. Pat Dugan managed commercial timber operations in the Philippines for twenty years before assisting the government and donor agencies to better design sustainable forest management systems. Alex Moad, a tropical forest ecologist, works with the International Forestry Program of the USDA Forest Service. Ajit Banerjee pioneered community forestry programs in West Bengal before joining the World Bank.

Ajit Banerjee defined natural regeneration as the processes through which all vegetative constituents of a forest ecosystem renew themselves after disturbances, with or without outside manipulations. Both time-tested, indigenous systems of forest management and commercial timber-stand management practices of the past have been largely dependent on processes of natural forest regeneration. After a year or two of swidden farming or selective felling, forests were normally left to regenerate naturally with varying degrees of manipulation. Only during the last two to three decades have foresters emphasized "reforestation" through artificial plantations, typically fast-growing, monoculture systems. In recent years, however, plantation forestry has come under increasing scrutiny as the dominant and favored forest management strategy.

According to Banerjee, the establishment of plantations of exotic timber species was adopted because degraded forests were failing to regenerate naturally. Natural regeneration was frequently slowed by ongoing disturbances within the ecosystem. Forest agencies and concessionaires were unable to adequately protect forests after initial logging. At the same time, overexploitation eroded the natural resilience of the ecosystem to generate new growth. Traditional community forest use practices and protection systems also broke down as indigenous rights declined and local authority to control access and protect forest lands was lost. Simultaneously, growing local and migrant population pressures often reduce fallow periods, diminishing soil fertility and pushing rural farmers onto more marginal forest lands. Without effective protection to prevent further

exploitation and allow for a period of recovery, the natural process of secondary forest succession is slowed, or ceases entirely with even further ecological degeneration occurring.

As poorly protected natural forests repeatedly failed to regenerate, and as industrial demands for raw materials rose, foreign donors and national governments began advocating the adoption of fast-growing plantations and increased capital investments. Banerjee mentioned that, ironically, the lack of access controls driving the degradation of natural forests also generated similar management problems for plantations. In both cases, effective protection was a fundamental prerequisite for forest stability. In fact, monoculture plantations of exotic species often proved to be even more vulnerable to natural disturbances and far more costly to establish.

Systemic Differences: Plantations vs. Natural Forests

Alex Moad stressed that artificial plantation forests and natural forests are not interchangeable systems. They differ fundamentally in terms of composition and function. Comprising simple, spatially distinct, and single-tier stand structures of even-aged trees, plantations are characterized by one, or at most several, species. Species selected for planting are often fast-growing exotics. Plantations typically yield poles and pulp for industry. In contrast, natural forests in the tropics are complex, species-diverse biological systems that are spatially integrated within the larger agro-ecological landscape. Natural forests form multiple tiers of herb, shrub, and canopy layers, and generate a wide variety of timber and non-timber forest products. Non-wood products from natural forests are used by forest communities to meet subsistence food, fuel, fodder, medicine, and other basic requirements. Natural forests simultaneously serve multiple ecological functions far more effectively than plantations, including rapid nutrient cycling and turnover, topsoil stabilization, groundwater retention, and improved surface water regulation and quality. The synergistic combination of these protective services significantly enhances agricultural land productivity.

According to Moad and his colleagues, because they are typically imported from temperate zone contexts, both the species selected and the silvicultural techniques adopted for plantation systems are often ill-suited to the natural environments of many tropical sites. Field evidence suggests that the success of these plantations depends on a certain set of conditions. For one, plantation forests in the tropics

generally require biologically productive sites with fertile soils in order to flourish. As agricultural expansion has converted the vast majority of optimal land from forest to field already, the world's remaining tropical forests are surviving on marginal sites with poor soils. Plantations usually do poorly on such lands. Banerjee reports that the dry deciduous forest soils of southwest Bengal, for example, are characterized by nutrient deficiencies and a series of lateritic bands that hold little water and obstruct root systems. In this region, experience shows that native *sal* (*Shorea robusta*), with aggressive root systems adapted to these soil conditions, consistently outperform and even outcompete exotic plantation species such as eucalyptus.

Dormancy periods in temperate climates, Moad suggests, appear to fortify seedling resistance and reduce risk of pests and disease in imported species. The lowland humid tropics lack a distinct dry season when seeds can lie dormant. Consequently, plantation systems in the humid tropics have proven highly vulnerable to pests. Outbreaks tend to spread rapidly and often spell the destruction of an entire stand. Finally, when plantations are established on public forest lands, the management rights and responsibilities of local communities are often unclear, leading to local conflicts and misuse. Due to these limitations, plantation forestry has proven to be neither ecologically sustainable nor responsive to local social and economic conditions.

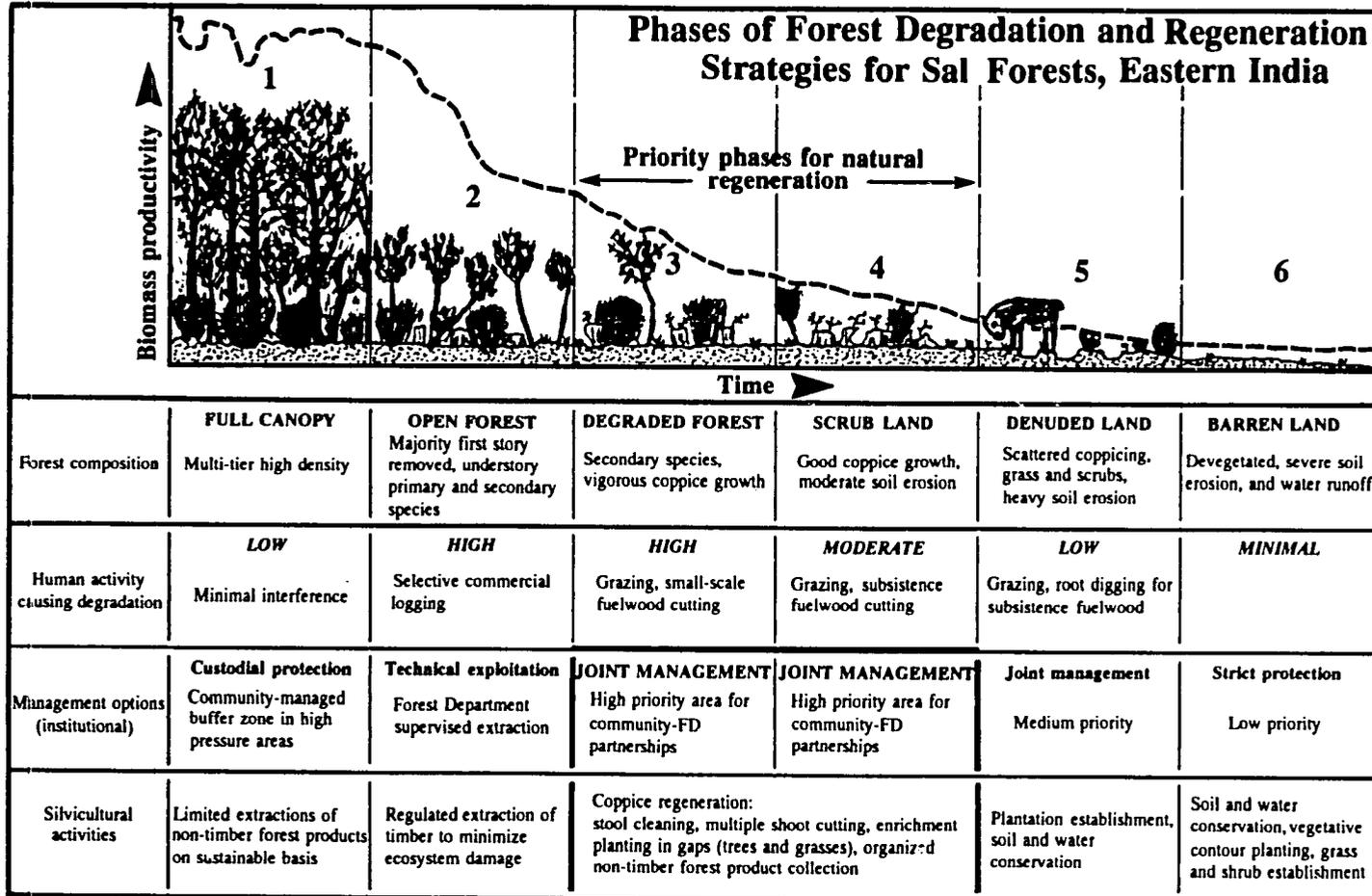
In contrast, the rejuvenation of natural forests by relying on the natural processes of secondary forest succession has distinct socio-institutional, economic, and ecological advantages over plantation strategies. Unlike plantations, which tend to be tightly constrained by budgetary and bureaucratic constraints, the process of natural regeneration is not tied to a "project cycle" and is free to begin as soon as the community is empowered to protect. As a no-cost (or low-cost) option, natural regeneration offers scope for rapid and widespread replication. In forest succession, pioneering species have been naturally selected to adapt to marginal conditions, colonize rapidly, and mature and reproduce early. Natural regeneration offers an efficient system of vegetative recovery closely adapted to local site conditions and much more likely than plantations to survive over the long term.

The inherent resilience of disturbed forest systems to recover has been well documented. Small-scale disturbances, species dieback, and rapid regrowth in patches are an integral part of a tropical forest's natural dynamics. According to Pat Dugan and his colleagues (Dugan et al. 1989; Uebelhor 1989; J. Jarvie, pers. com., 1993), in Asia's remnant

forests the natural regrowth of seedlings five to ten years after logging ranges from 2,000 per hectare in the mixed teak/dry deciduous forests of North Thailand to 7,500–10,000 per hectare in the moist dipterocarp forests of Mindanao and Kalimantan. However, as forests undergo a progressive series of larger, more severe disturbances from outside forces, their biological resilience and capacity to regenerate is diminished. Banerjee noted that beyond a certain stage of ecological deterioration, the potential “window of opportunity” for these forests to recover naturally through rootstock and seedling regeneration is lost (see Figure 2, Stages 5 and 6). Intervention is crucial before this advanced process of topsoil and biomass impoverishment is reached. In India, this late stage of degradation often involves digging up tree roots for fuel—the final act in destroying the forest’s biological capital. In upland Southeast Asia, the analogous phase would involve severe sheet and gully erosion on devegetated watersheds. In both cases, establishing effective community-resource use controls before severe degradation occurs can facilitate rapid regeneration; however, once precious topsoils are lost, much more costly, time-consuming technical approaches are required.

Unlike plantations, natural regeneration reestablishes a multiple-tier, mixed natural forest that increases biodiversity and supports indigenous germplasm. In turn, this biodiversity helps sustain cultural diversity, specifically in traditional forest users who are heavily dependent on the forest for their survival and highly knowledgeable about its ecology and ethnobotany. Secondary forest succession also has related equity and gender implications. Unlike plantation forests, the gestation period for early benefits from natural regeneration is short; non-wood products and biomass for local consumption are almost immediately available. Natural forest product flows, especially non-timber forest products, are characteristically diverse, seasonal, and subsistence-oriented (versus market-based). The benefits of forest regeneration tend to channel disproportionately to those villagers most reliant upon forest products for their livelihoods. These include the poorest and most marginalized subgroups of society—tribals, landless, and women—who often serve as the primary collectors and processors of non-timber forest products. Tribal populations often depend on the tubers and fruit as a primary food source and as their sole “famine” food in periods of drought. The Thai research team found that in the dry dipterocarp forests of Dong Yai in Northeast Thailand, villagers rely on a wide range of forest flora and fauna to supply 80 percent of their daily diet.

Figure 2.



Source: Adapted from A.K. Banerjee, *Wasteland News*, August-October 1990, New Delhi.

Throughout the developing world, as forest ecosystems are destroyed, entire cultures have been lost. The panelists repeatedly stressed that there are no substitutes for natural forests in terms of their biological, hydrological, or economic functions, nor in their ability to ensure the continuance of forest-based culture.

Natural forest regeneration under decentralized community management will not necessarily solve all forestry needs, including the demand for highly intensive industrial plantations. However, in cases where such community-based systems have been initiated and allowed to spread, they are proving an important alternative to address the vast tracts of logged-over forests lying in various states of degradation throughout Asia. The great advantage of participatory forest management is that it offers a flexible framework for protection, rehabilitation, and sustained management. Given the complexity of tropical forest systems, combined with the cultural diversity of community user groups, an adaptable strategy that can be fine-tuned to locally specific contexts is essential. The participatory strategy allies and promotes two powerful potentials: nature's ability to regenerate itself after disturbance, and community capacity to control access and protect against unsustainable forest uses. This major shift in concept—from centralized control to decentralized management favoring communities—shifts radically the economies of scale. The process requires a move away from mechanization and extensive, standard silvicultural prescriptions to maximize wood, and toward small-scale, innovative strategies that ensure a steady, intensively managed flow of wood and non-wood products in a holistic, sustainable ecosystem.

As Pat Dugan commented, "Management concepts and systems continue to be reexamined in terms of their underlying philosophies, effectiveness, and capability to respond to change. One manifestation of this general trend is the devolution of decision-making authority to small groups of individuals. In forestry, there has been this 'big is beautiful' concept which just hasn't worked." Dugan explained that the ecological impact of large-scale conventional timber extraction methods, such as soil compaction resulting from the use of heavy logging equipment, suppresses forest regeneration. Consequently, it may be far better to rely on environmentally friendly technologies for smaller timber extraction, such as animals and lightweight tools used by local communities, facilitating more labor-intensive, cost-effective timber management.

Dugan notes that household-based, intensive timber-stand management systems are well-illustrated in Imazu, Gifu Prefecture, Japan.

❖ Transforming Forest Management: The West Bengal Case

Due to its impressive scale, the eastern India region presents a compelling case for natural forest regeneration. Over the past 10–15 years, an estimated 1-2 million hectares of *sal* forest (*Shorea robusta*) have been regenerating under the protection and management of community groups in Orissa, South Bihar, and Southwest Bengal. As Ajit Banerjee recounted, the forest management history of West Bengal highlights difficulties with conventional rehabilitation practices faced by many forest departments across Asia, as well as alternative community-based strategies offering more promise in regenerating degraded forest lands.

In the early twentieth century, the forests of West Bengal were privately owned and managed on a coppice rotation of 30 years. Clear tenure, effective private access controls, minimal outside interference, and a long rotation period allowed the forest ecosystem to successfully recover through natural regeneration. As population pressures and commercial timber needs mounted during World War II and the early Independence era from 1940 to 1955, felling rotation periods were drastically reduced to 3–4 years, compromising the regeneration process. Forest stocking levels plummeted during this period, and use became unsustainable.

The forests were transferred to the public domain in 1956 when they were acquired by the West Bengal government. The Forest Department adopted the silvicultural management system of coppice with standards (mother trees), fixing the coppice rotation at 15 years. Facing strong pressures to generate annual state revenues and supply growing industrial needs, the agency's primary mandate was to manage the forests for commercial ends. For all practical purposes, this strong commercial orientation excluded consideration of local needs. As a result, very poor, highly forest-dependent communities came into direct conflict with the Forest Department.

Despite intensive efforts by the divisional forest officer and staff to protect the forests, the standards suffered illegal felling, and the coppice crop was steadily degraded. Protection guards were greatly outnumbered by surrounding local populations who felt excluded. Forest communities,

Viewing forest management as a long-term, intergenerational investment, local households gain substantial income from holdings of only 0.8 hectare. For more than 250 years, communities have practiced a labor-intensive, highly selective logging in which growth and yield data have been carefully recorded. Coniferous species in the natural forest are intensively "cultivated." To ensure that at least 80 percent crown density is retained, harvest is limited to one tree per hectare each year.

alienated from their own forms of sustainable management, began overcutting fuelwood, grazing their cattle, burning, and hunting without regard to the ecological problems caused by their use practices. Natural regeneration failed miserably in most sites, while the forests became so unproductive that villagers even resorted to uprooting coppice stumps for fuelwood. Ajit Banerjee, the local forest officer who witnessed the crisis firsthand, recalls that at the time, "Forest use was out of control." The natural regeneration strategies that had been introduced by the Forest Department to sustain "scientific" forest management, primarily for commercial operations, were rapidly resulting in the production of wastelands. The basic needs and psyche of local populations were ignored, and the vital requirements for natural regeneration to succeed were impossible to ensure.

By the early 1970s, it was clear to Banerjee and a few other Forest Department officers that the regular system of forest exploitation and attempted protection by government was no longer viable. An experiment using alternative methods was initiated in a badly degraded forest tract of Arabari range in Midnapore District. In consultation with the eleven surrounding villages, the divisional forest officer entered into an informal partnership with the communities. In exchange for their voluntary protection of the forest, the community would be entitled to a guaranteed share of forest benefits, including all non-timber products and 25 percent of the revenue from *sal* timber. Although the arrangement was unofficial, it succeeded in adequately clarifying in the minds of the villagers a new system of shared responsibilities and rights to the forest. Under community protection, natural regeneration of the *sal* scrub proceeded well. In many areas, forests rapidly recovered while simultaneously satisfying the daily, legitimate needs of resident communities. Ushering in a new era of "joint forest management" in West Bengal—and more recently in fourteen other Indian states—the Arabari case underscored dual capacities: local communities' ability to cooperate with each other and with the Forest Department in forest management, and the natural capability of degraded forests to regenerate if given respite from disturbances.



In order to achieve premium-quality wood (which generates US\$2,000 per cubic meter), the management strategy deliberately slows early growth, allowing rapid mean annual increments to accrue only after crowns emerge in 40–50 years.

Indigenous people and their traditional forestry practices have much to teach us about the processes of natural forest regeneration, local forms of social organization, and intensive, sustainable

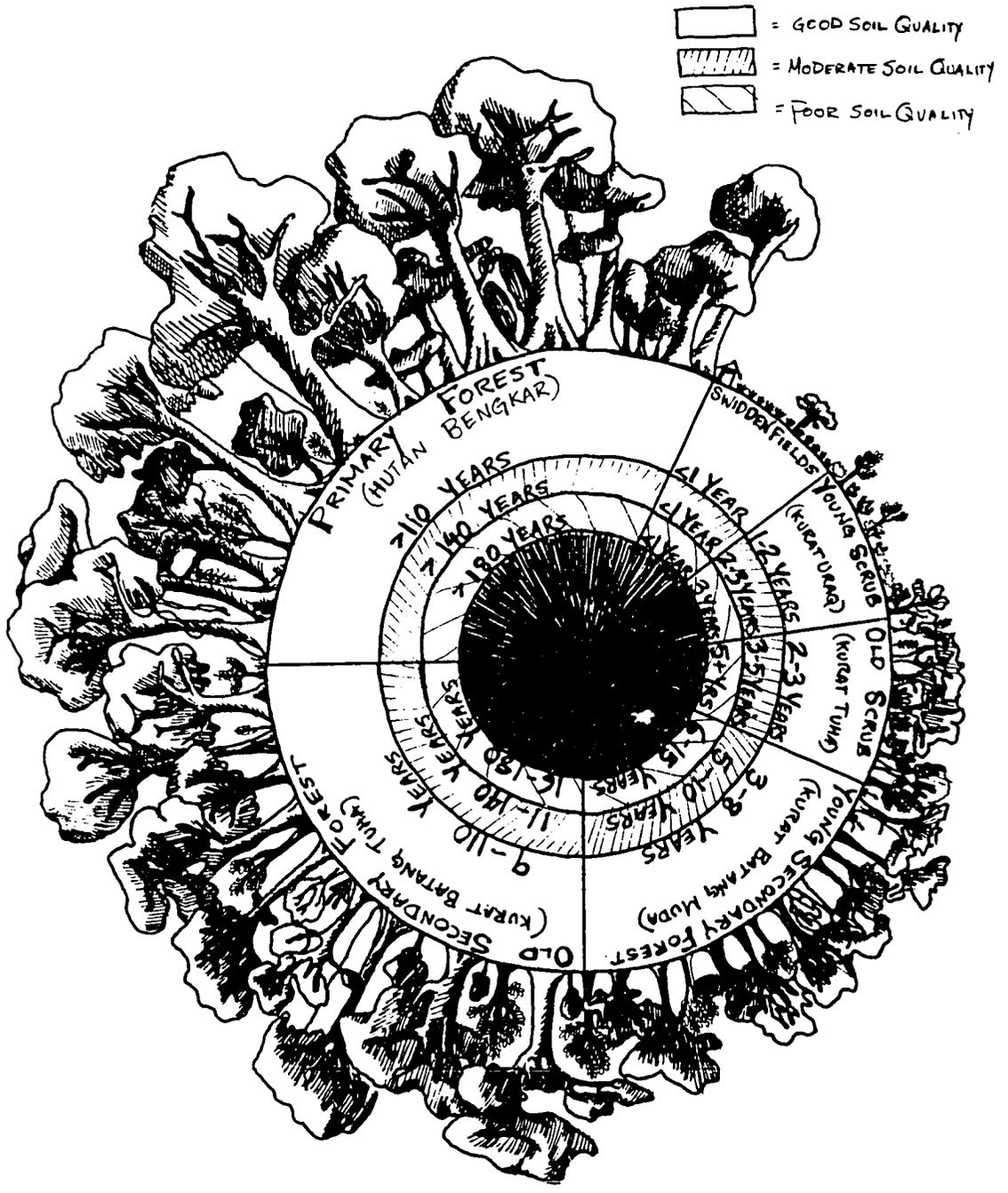
management systems, contended Dugan. As new appreciation for indigenous wisdom emerges and the limitations of conventional forestry models are acknowledged, many examples of traditional forest management systems are being documented in Asia.

Dugan noted that in the late 1970s in the Philippines, the Kalahan Foundation, an organization of indigenous tribal communities, acquired 14,000 hectares of mixed forest. Local councils of elders revived traditional rules involving age-old practices to control fire use when clearing forests for food crops. Employing indigenous strategies to accelerate natural regeneration, the tribal communities' management system has resulted in successful forest recovery and growth (Institute of Philippine Culture 1989). Similar experiences have inspired the Philippine's Department of Environment and Natural Resources (DENR) to establish the Community Forestry Program, enlisting 49 communities to protect 50,000 hectares. In a matter of only two years, the community-controlled areas are showing dramatic declines in slash-and-burn farming and illegal logging. Communities have developed what is known today as "accelerated natural regeneration" by simple practices of lodging grasses, preventing fires, and ringweeding pioneer trees. In the course of four years, for the minimum cost of US\$100/hectare, a 55-hectare tract of *Saccharum* grasslands was transformed into a 4-meter forest with herb, shrub, and canopy layers (Nasol 1994).

The past three years of diagnostic field research by members of the Asia Sustainable Forest Management Network further corroborates the value and sophistication of local knowledge, and the community's ability to lead the way in reestablishing sustainable forestry. In remote Diak Lay village in East Kalimantan, Indonesia, native Dayak tribals practice their own intricate systems of land use suitability and natural regeneration monitoring (Poffenberger and McGean 1993a). Based on their traditional classification system, the Benuaq Dayak identify five phases of forest regeneration (see Figure 3). Before opening a patch of forest for swidden (*ladang*) farming, the Dayak assess soil fertility, using key indicator species to reflect soil and moisture conditions. Their biological assessments are presented before a council of village leaders and elders, who meet to discuss the site's land use history and judge each farmer's request to open a *ladang*. The forest-fallow management system of the Dayaks has worked for centuries, effectively twinning sustainable farming and forestry practices. Even as their rural subsistence economies move increasingly toward commercial market opportunities, the Dayaks have adapted their

Figure 3.

BENUAQ DAYAK PHASES OF FOREST REGENERATION



ecological knowledge to develop more lucrative, complementary systems of cash crops. Over the past three to four decades, they have cultivated highly productive and valuable mixed fruit and banana gardens. For an even longer period, they have been engaged in planting rattan gardens in the understory of the natural forest, understanding the long gestation period required before such gardens mature fully and reach their peak values.

Given the huge scale and temporal urgency of the forestry problem across Asia today, the panelists concluded that timely and vast coverage can only be provided through the cost-effective, efficient, and equitable processes of natural regeneration under community protection. Increasingly, community forest management strategies and natural forest regeneration are returning to the forefront of the policy dialogue. The forestry sector has begun to redefine what constitutes "good management." Field evidence suggests that quality management of highly pressured forest resources demands a "human-intensive" system. As Dugan contends, this system must be based on practical, hands-on decision making by small social groups that communicate daily and cooperate with each other. By adopting new roles, the forest department can serve as the "enabler" and technical guide to sound, local decision making by resident community forest managers.

PANEL: COMMUNITY PROTECTION AND LOCAL ORGANIZATIONS

Panelists included Anil Shah, past director of the Aga Khan Rural Support Programme in Ahmedabad, India; Uraivan Tan-Kim-Yong, professor of Rural Sociology at Chiang Mai University, Thailand; and Marvic Leonen, attorney to the Legal Rights and Natural Resources Center of the Philippines. The speakers presented experiences with emerging community forest management in Asia.

The panelists noted that throughout much of South and Southeast Asia, communities have historically relied on rules and regulations to control forest use and ensure equitable distribution of forest lands and products for agriculture, hunting, and gathering. Where forest resources were abundant and populations small, more extensive land management systems often prevailed. However, as populations have grown throughout the region, both in areas with strong indigenous traditions and in migrant villages with no prior management experience, many communities have begun to either reassert or develop their own systems of resource control. Anil Shah noted that in both western and eastern India, rural people are organizing to protect forests in small clusters of 10–50 households. Often comprising a single socioeconomic or ethno-linguistic group, community-based resource management is possible because members are able to carry out basic functions themselves, including establishment of use rules and regulations, resolution of disputes, and equitable distribution of benefits.

In contrast to formal, multi-village governance bodies (i.e., *panchayats*, *tambon*, *barios*, etc.), which have been the institutional basis for most past social forestry projects, residential hamlets are informal in nature. Shah noted that these small, informal community groups appear to function effectively as resource managers, in part because leaders are accountable to members, rather than to superiors in government. In these small groups, all members are known to one another, so peer pressure can work effectively in encouraging members to conform to consensual forest use norms and rules. Unfortunately, in many parts of Asia the role of indigenous community institutions and leaders has been displaced by formal, often-politicized governance

institutions. Lessons now emerging indicate that these local community institutions need to be acknowledged and given the authority to take on responsibilities for forest protection. In some areas, small informal community groups—often tribals—are taking action unilaterally by protecting forests against all outside users. Other groups are receiving support and encouragement from government forest agencies.

According to Shait, in eastern India, encompassing West Bengal, Bihar, and Orissa, a grassroots environmental movement is growing. Over 10,000 communities now protect over 2 million hectares of regenerating forest. Arvind Khare reported that an estimated 18–30 million hectares of degraded forests on the subcontinent could regenerate rapidly through coppice growth if local communities begin to protect them. The task involves creating opportunities and momentum for village groups to organize and take action, and developing supportive forest departments and NGO extension programs. Over the past five years, India's forestry sector has begun shifting its strategies to emphasize the empowerment of communities as protectors of natural forests, to facilitate their regeneration and recapture their productivity. The national government and fifteen state governments have passed resolutions to recognize forest villagers as joint managers of degraded public lands with clear rights and responsibilities. Khare stated that joint forest management in India should be perceived as a fundamentally new philosophy of resource management. He feels that while progress is being made, community-Forest Department partnerships should not be confined to degraded forests, but should also include well-stocked forests, parks, and other resources of high value.

Lert Chuntanaparb reported that in Dong Yai, Thailand, eleven rural communities have worked together with regional foresters and researchers to protect and regenerate former kenaf fields. This 25-year transformation has been remarkable, producing the largest tract of remnant lowland dipterocarp forest in Northeast Thailand. Each community has organized a protection group that patrols a section of the 4,000-hectare forest, monitoring for fires and outside timber exploitation. Elaborate rules derived by the communities limit wood extraction to domestic needs only, while the collection of non-timber forest products such as mushrooms and gum remains open even to outsiders who travel far distances (up to 60 kilometers) to gather forest products. Strong community leadership and sympathetic foresters have played a pivotal role in encouraging the villagers to assume responsibility and take pride in the ecological health of their forest.

In the Nam Sa and other neighboring mountainous regions in North Thailand, Uraivan Tan-Kim-Yong and Samer Limchoowong reported that other successful community forest management stories are unfolding. Karen, Hmong, Lisu, and Lahu tribal villages are resolving resource conflicts and organizing forest protection and management activities around the micro-watersheds they inhabit. In some villages, community members have constructed three-dimensional watershed maps that serve as a tool for micro-management planning. Land use management plans, negotiated during monthly community meetings, have led to detailed regulations for forest access and use. These include rules that forbid the clearing of ridgetops and upper catchment forests, ban chainsaws, provide incentives for conservation farming, and impose fines on unauthorized hunting and uncontrolled swidden fires that damage other farms and forests. The organizational process and ecological stabilization and recovery of Nam Sa is now spreading to villages in neighboring watersheds. At the present rate of expansion, it appears that many of the watersheds to the west and north of Chiang Mai will be assumed under local protection within the next six years (Poffenberger and McGean 1993b). A recent Thai national inventory of community forest management initiatives conducted by the Royal Forest Department found nearly 12,000 community groups operating. These comprised both traditional community institutions created to manage forests for cultural, hydrological, or production purposes, and recently established organizations promoted by schools, temples, and other local institutions.

Marvic Leonen reported that most of the Philippines' 190-220 ethno-linguistic groups are found in indigenous upland communities. These tribal cultures are at varying stages in attempts to integrate lowland migrants and development initiatives on their homelands. In many cases, tribal interactions with lowland people have undermined indigenous leadership and institutions, threatening their survival as distinctive cultural communities. The Lumad people of the northern Pulangi watershed in Bukidnon, Mindanao, have been retreating from the progressive intrusion and domination of Visayan migrants and logging operations for several generations (Poffenberger and McGean 1993c). They now find themselves with no further place to run. To survive as a culture, they will need to unite and establish agreements with the government and more powerful migrants to protect their rights to upland forest resources. Like many upland groups, however, they are politically, socially, and economically

marginal. They are also fragmented, in part through the actions of different religious groups who compete for their loyalty. Nonetheless, the Lumad maintain their traditional clan leaders (*datu*) and could organize in the upper watersheds if given the proper support. In other contexts, such as the tribal communities of the Northern Cordillera mountains of Luzon, resistance to mega-infrastructure projects, including dams funded by the World Bank, has provided a focal point and common ground around which tribal communities can mobilize and assert their identities. There is a need to inventory upland community groups and leadership patterns and capacity, identifying those that are in a position to organize on their own and assume forest management responsibilities, as well as those that will need longer periods of institution-building.

Many Filipino NGOs, researchers, and staff are hopeful regarding the range of enlightened community forestry policies and programs that have emerged in the past decade. These new strategies could help to stabilize upland forest use through stewardship agreements and ancestral domain recognition. Even in areas where *Imperata cylindrica* grasses (*cogon*) have invaded, studies indicate the control of fire and modest manipulation can facilitate healthy forest succession. However, support of community forest management policies alone has not yet driven rapid reforms on the ground, and the transfer of management authority nationwide has moved slowly. Complex, prescriptive measures for certifying community groups, while a positive indication of government support, have been less effective in facilitating the expansion of ancestral domain designations or community forest certification. Leonen commented that in some cases, the procedures have confused local DENR staff in a myriad of complex, unrelated, or overlapping projects.

A number of challenges face forest departments, NGOs, and researchers working to facilitate the establishment of community forest systems. Developing an efficient and equitable process through which public forest land can be allocated to local communities for protection is essential. Where forest departments have succeeded in this effort, they have created a supportive environment in which communities can take the lead in reaching a consensus on the assignment of responsibilities. Often, decisions over territorial forest boundaries are based on historic use practices, traditional rights, and current needs. Communities usually have a better understanding of these criteria and the actors than forest departments, and any binding agreement must be acceptable to all affected communities. By encouraging villages to

take the first initiative in forest designation and mapping, forest departments not only ensure that decisions are more likely to be acceptable to local groups, but also reduce their own workloads. In such cases, the primary role of the forest department is to provide encouragement in the process, including some technical support for mapping, such as appropriately scaled topographic maps if available (generally 1:25,000–50,000), and legitimacy for the outcome. Where communities are unable to reach agreements on their own regarding territorial divisions, forest departments or NGO support groups may need to assist in negotiating a compromise.

Forest departments are confronted with a major transition as they move from traditional custodial and timber management roles to support roles in joint forest management activities. Protection duties are transferred to the community. Production activities shift from timber to multiple products, managed by villagers. Field staff need to develop a different mix of skills and technical expertise to serve as community organizers, forestry extension agents, and market analysts. Experiences from the Philippines, India, and Thailand indicate that working groups comprising foresters, social scientists, and NGO development specialists can assist forestry agencies in transition. It is important that community–forest department management partnerships evolve to fit local conditions. Working groups can help foresters monitor and assess how to adapt their role to better respond to local needs and opportunities.

Uraivan reported that in North Thailand social scientists collaborated with the Royal Forest Department to recruit and train community organizers. These young individuals work with hill tribe communities to develop cooperative resource management strategies. The systems, involving both traditional and emerging leaders and institutions, are functioning well and expanding to neighboring watersheds. The working group monitors the expansion of local management systems, while feeding information into the formulation of supportive local policies and programs. Due to the working group's documentation, government officials better understand the constructive steps being taken by minority hill tribes in North Thailand. This helps support the spread of these grassroots resource management initiatives rather than blocking them, validating the usufruct tenure security of hill tribes, who are not yet legal Thai citizens.

The panel concluded that the Asia experience reveals that elaborate policies and heavily funded projects are not necessarily sufficient to accelerate the empowerment of community groups as

managers of public forests. Significantly, more critical is the emergence of a supportive political environment facilitating the establishment and replication of decentralized management systems. Ultimately, simple transparent policies need to be developed as broad guidelines that provide both flexibility and encouragement to local administrators and communities to fine-tune their own resource management agreements.

Part II *Strategic Action Plans*

COUNTRY ACTION PLANS

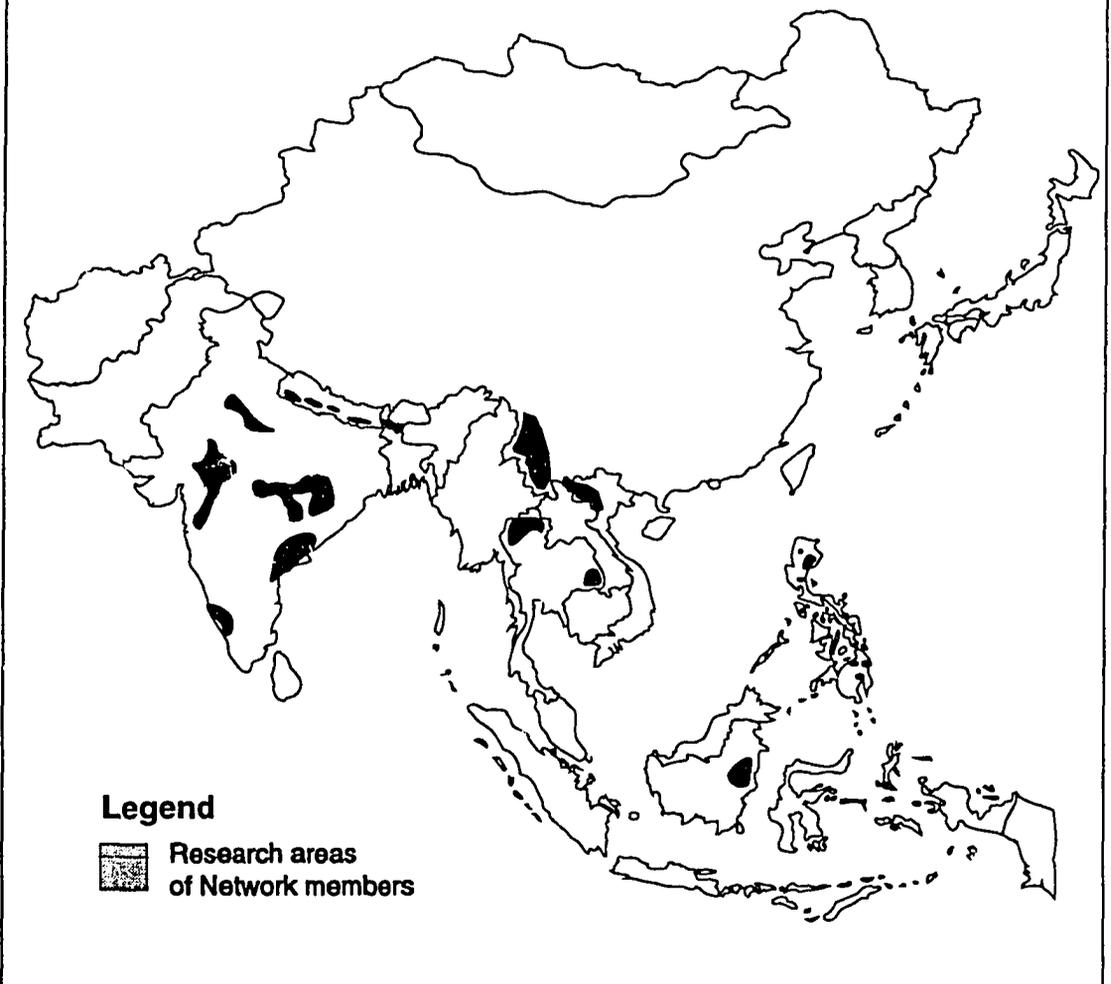
As the degradation of Asia's natural forests continues, and the existence of the region's forest dwellers becomes ever more threatened, the need to halt the procession of social and ecological loss assumes greater urgency. A primary goal of the Policy Dialogue on Natural Regeneration and Community Management was to identify strategic actions to accelerate the empowerment of rural villages as keepers of Asia's endangered forests. Each participating country group, comprising senior government planners, foresters, social scientists, and NGO leaders, was given an opportunity to outline tangible actions that could hasten the devolution of public forest management rights and responsibilities to communities as widely as possible in their specific country contexts. Despite the limited time available, each country successfully formulated a preliminary action plan. Common themes that emerged included the following:

- forming national or provincial working groups to guide and monitor program implementation
- inventorying existing community forest management initiatives and territories, active forest field officers, and NGOs
- exploring natural regeneration as a primary method for ecological recovery
- developing strategic regional maps of areas with high social and ecological potential for community protection and natural regeneration

Each country team proposed representative research areas based on their presumed potential for success in community management and its wider replication (see Figure 4). In the future, a more comprehensive inventory is planned to identify high-potential areas for natural regeneration and community management based on selected ecological and social indicators. Ecological factors might include such criteria as available coppice rootstock, proximity to remnant forest patches for seed dispersal, vulnerability to fire, or

Figure 4

Research Areas of Asia Sustainable Forest Management Network



specific keystone species indicating site fertility status. Important sociopolitical considerations might cover high community forest dependencies, community homogeneity and unity, strong leadership and commitment to equity, environmental concerns and perceived resource scarcities, the presence of indigenous systems of forest, pasture, or water resource management, active government support, or strong religious affiliations with the forest. By mapping both sets of indicators, their areas of overlap can be targeted as high-potential sites on which to initially focus attention.

Philippines

Country Team: Ben Malayang, Marvic Leonen, Romeo Acosta, Gilbert Braganza, Delfin Ganapin, Ernesto Wijangco, Pat Dugan, Peter Walpole, Delbert McCluskey

Over the past decade, the Philippines has developed a number of policies and programs to decentralize forest management. Many rural communities are demanding greater rights and authority to manage natural forest lands, often attempting to build on traditional use systems. Frequently, the well-intentioned policies and programs of government do not correspond to the needs and conditions prevailing at the community level. Regional (RED), provincial (PENRO), and community (CENRO) officials of the Department of Environment and Natural Resources (DENR) are unsure how to match different community forest management policies with local situations. In response to these needs, the country team proposes to form a working group to better identify sociopolitical contexts in the Philippines in which the Community Forest Program (CFP) of the DENR can be made more flexible and more permanently responsive to local community forest management activities relating to regeneration.

Given the vast upland areas in the Philippines experiencing rapid forest degradation, it is important to accelerate the establishment of effective community-based management controls. Through local protection, the productivity and biodiversity of upland forest ecosystems may be regenerated and sustained. Control of cutting, grazing, and fire will facilitate the processes of secondary succession through natural regeneration. Opportunities for community protection and management vary widely within the country. While community forest management appears to have promising potential in many

upland areas, some cultural groups are more cohesive and better organized to take over responsibilities than others.

The country team concluded that it is necessary to identify the existing human-forest contexts within the Philippines to understand how to respond strategically to varying needs and conditions. The Philippine Working Group will begin meeting on a regular basis, to allow a small group of senior policy makers, NGO leaders, and researchers to systematically monitor a variety of upland sites. The group hopes to identify the types of areas where community forest management systems could be established quickly through local leaders and organizations if provided encouragement.

Where communities are already involved or interested in forest management, management authority can be rapidly devolved, while maintaining technical support in mapping ancestral domains and certifying agreements between the DENR and communities. Where local organizations are still vital, an orderly establishment of partnerships between upland communities and the DENR could spread quickly from sub-watershed to sub-watershed. In other areas, where the social-political environment is more complex or where no leaders or organizations are present to facilitate the emergence of a coalition and consensus for resource management action, the process may be more time-consuming and require different policy and program mechanisms. Increasingly, communities in the uplands are pressing ancestral domain claims, and the procedures are being more widely tested.

The country team selected ten sites for diagnostic study and monitoring in various parts of the country, to improve understanding of the types of field-level contexts and different approaches necessary for community management. The proposed working group will examine the progress and prospects for accelerating community forest management initiatives in five areas where government CFP projects are under way, and five sites where upland villages are involved in non-governmental research or action projects.

High-Potential Areas: The ten sites selected were considered to possess high potential for rapid establishment of community forest management or ancestral domain agreements, because they have strong traditional organizations and management of non-timber forest products, good local leaders, and/or positive government support (see Figure 5). The first group of sites are populated by indigenous tribal communities with strong traditional leadership and institutions. Tinoc

Figure 5



(Banaue-Mayoyao), located in Northern Luzon and inhabited by Ifugao people, is an area believed to possess strong traditional management systems. Ancestral-domain mapping programs may be appropriate strategies to decentralize and empower local groups as forest managers. Sangilen in Mindoro Oriental was chosen to represent traditional Mangyan communities with strong leadership and local organizations. Successful establishment of ancestral domain agreements with the DENR in Sangilen could feasibly spread to the thirty-two other Mangyan communities in Central Mindoro, allowing all of the island's upland watershed to come under community forest management systems.

The second group of sites will be used to explore how commercial logging areas might be transferred to communities for management. In Lianga Bay, located in eastern Mindanao, the DENR is exploring a Community Development of Residual Forests (CDRF) agreement with local groups and church leaders. This area provides an opportunity to explore how the transfer of commercial logging concessions to community management groups might be achieved. Pagdanan, on the island Palawan, was also felt to be a good location to develop CDRF agreements, due to the strong interest of local government.

The third program area will explore ways to stabilize forest management where large migrant communities are moving into upland watersheds with small tribal populations. In the Sierra Madre mountains of eastern Luzon, program sites were chosen in Dupinga and Nagtipunan. In Dupinga the Dumagat, Tagalog, and Ilocano communities have organized (with the help of NGOs) to halt logging in this important watershed. In Nagtipunan, the entire province has been identified for extensive community forest management programming. Both areas are challenging, as the indigenous people are a small minority with a diverse migrant population; it is less clear what CFP agreements might be most suited to local conditions. Claveria and Bendum sites are both located in the central mountains of Mindanao. In both areas, NGOs have assisted tribal communities to organize. In Bendum, several Bukidnon communities are positioned to manage parts of this critical upland watershed under an ancestral domain agreement. They are not, however, a unified political group and are under pressure from Visayan peoples who have migrated into the area.

Program Strategy: In the first phase the working group will combine regular meetings with site visits. The site visits are intended as a venue

for discussion among the members regarding high-potential site characteristics, the strengths and weaknesses of current policies and programs, and tools for accelerating community management projects. The findings will be presented at the Asia Sustainable Forest Management Network meetings in October 1994. During these visits other researchers will be invited to contribute to the working group's discussions. The three-day visits are intended as occasions for intensive field observation and community interaction. Each visit will be followed by a working group meeting to synthesize each member's analysis of the field conditions.

An attempt will be made to establish and support community-based documentation, implementation, and monitoring in the sites described above. Priority research activities will be identified to assess the appropriateness of current policies and programs and the broader public response to forest management activities. The working group will attempt to identify strategies to make the CFP more responsive to local situations and needs, and to accelerate the adoption of DENR programs. Social and ecological criteria to identify high-priority areas for CFP will be developed. The result of this research will be shared with other government agencies and the NGO community by the end of 1994.

In Phase Two, the working group will begin consultation with other government agencies and NGOs to begin developing national baseline maps of high-potential areas, utilizing social and ecological criteria developed in Phase One. This activity would be conducted in 1995. During Phase Three, extending from 1996 to 1999, accelerated programs for community management will be fully implemented in high-potential areas. Community groups will be supported to expand existing forest protection activities, encouraging neighboring communities to join in management efforts throughout larger watershed areas chosen for initial program activities.

Indonesia

Country Team: Oekan Abdoellah, Roedjai Djakaria, Agus Djoko Ismanto, Oktavianus Kamusi, Kuswata Kartawinata, Abubakar Lahjie, Owen Lynch, Sandra Moniaga, Tri Nugroho, Sopari Wangsadidjaya, Chip Barber, and Jerry Bisson

Indonesian planners have been working with donor organizations and NGOs in recent years to design a number of new programs and

pilot projects for community forest management. The government is currently formulating a new strategy to stabilize natural forest resources under Permanent Forest Management Units (KPHP). Indigenous forest management systems would need to be integrated within or outside the KPHP. Since KPHP is a new, still-developing concept and program, it provides an opportunity for incorporation of innovative community management strategies. In addition, the Ministry of Forestry is experimenting with community timber concession management (HPH Masyarakat) underway in West Kalimantan with German bilateral support. This project allows local communities to assume some management responsibilities for production forests. The Traditional Forest Area (TFA) is another pilot program that attempts to operate within a timber concession. This approach is being developed under the USAID-supported Natural Resources Management Project in the Bukit Baka/Bukit Raya Park area in West Kalimantan. An Integrated Protected Areas System (IPAS) is also being pioneered by the Forestry Department on Siberut and Flores islands with financing from the Asian Development Bank. Finally, support from the Global Environment Facility (GEF) is financing experiments with community management in Sumatra's Kerinci Seblat National Park and adjacent areas. The Indonesian team noted that it was important to facilitate exchanges of information between these programs to accelerate learning regarding approaches to integrate communities within the formal forest management sector.

High-Potential Areas: The Indonesian country team identified Kalimantan as a high-potential area for establishing new community forest management agreements. In recent decades, Kalimantan has been the center of Indonesia's timber industry and an important destination for migrants from other parts of the country. These events have had a dramatic impact on forest cover across the island. Although some of this area has been targeted for reforestation, millions of hectares are unprotected and continue to be degraded. In some areas traditional communities are well-positioned to take over protection activities.

Within Kalimantan, the central drainage of the Mahakam River, covering approximately one million hectares, is a strategic region for developing community forest management activities (see Figure 6). The area falls between the coastal plain, with its growing urban centers in Balikpapan and Samarinda, and the remote mountains along the Sarawak border. The central Mahakam is a critical upper catchment

Figure 6



supporting the Melintang wetlands, which include the largest lakes on the island of Borneo. In the coming decade, it is likely that much of the natural forest in the coastal area will be converted to plantations, agriculture, and human settlements. The central Mahakam would be managed as natural production forests with the participation of indigenous peoples.

Initially, a feasibility study will be conducted in the area in and around the KPHP to determine which area is most suitable for a diagnostic study to promote community-based forest regeneration and management. In this process, weaknesses in the KPHP framework in relation to community participation and management need to be identified. It was suggested that exploratory diagnostic research be initiated in the Damai area of East Kalimantan, where the Benuaq tribal communities are reportedly developing proposals to formally share forest management responsibilities. There is also an NGO Working Group on KPHP, which could help facilitate discussions between forest communities and the local government. This case study would clarify procedures to reach agreements between local groups and government, while generating methods to adapt emerging KPHP systems to integrate traditional systems of forest management. As a companion activity, a broader survey of traditional forest management groups in the central Mahakam will be initiated.

The survey will attempt to identify communities willing and able to undertake community forest management activities. The survey will also map the existing forest-management domains of tribal and migrant communities. Existing government planning agency (BAPPEDA) maps (produced by Germany's GTZ project), available at a scale of 1:50,000, can be utilized, as can RePPP's transmigration project maps (1:250,000) and the large-scale land use agreement (TGHK) maps (1:500,000). Mapping of traditional forest use territories can assist with KPHP planning. The longer-term effort will build capacity within provincial forest departments to incorporate community-based natural regeneration studies and activities into the KPHP model throughout Kalimantan.

Program Strategy: To inventory local claims and occupancy of traditional and public forest lands, it is essential that the working group identify existing institutions that can assist with this process. Traditional village institutions, tribal councils, and other informal community bodies, acting under customary law (*hak ulayat*), can help illuminate forest use practices, identifying areas where territory is

undisputed and where conflicts exist. In addition, the working group will inventory local government agencies, churches, NGOs, universities, and informed individuals with potentially important roles to play.

Once baseline feasibility study data are in place and key local institutions and individuals are inventoried, the working group members propose conducting a series of informal forums at village, sub-district, and district levels. Based on the information and agreements generated through these informal gatherings, one or more formal meetings with relevant agencies and officials will be held to obtain local government support for the emerging management plans.

The Institute of Ecology at Padjadjaran University will continue to facilitate the project in cooperation with Mulawarman University as field implementor in East Kalimantan. Both institutions will work in cooperation with the Forestry Department. Local NGOs in East Kalimantan will assist the field researchers in inventorying indigenous communities and in documenting their forest management territories and use systems. As the work in East Kalimantan progresses, a second action research site will be initiated in West Kalimantan with support from local NGOs and universities.

Thailand

Country Team: Lert Chuntanaparb, Komon Pragtong, Uraivan Tan-Kim-Yong, Wanida Subansenee, Bunnalert Rushatakul, and Samer Limchoowong

The Royal Forest Department (RFD), in conjunction with university-based researchers and NGOs, has begun a systematic effort to document local forest management systems nationwide. While formal community forest management policies are still under discussion and debate, considerable progress has been made in Thailand to inventory and support the expansion of local initiatives to stabilize forests. This has involved an attempt to link formal forest management systems with informal community-resource protection and use activities.

North Thailand is a particularly important region of the country because of its critical watersheds. The Ping, Wang, Yom, and Nan are all strategic upland areas for the central agricultural plains. Between 1967 and 1985, forest cover in the North declined at a rate of almost one percent each year (Pragtong and Thomas 1990). Policies to resettle

upland communities of ethnic minorities met with political resistance, and did little to stem the process of forest degradation. Additionally, not many of the donor-funded crop-substitution programs were effective.

The breakthrough described previously was the initiation of the Sam Mun Watershed Project, which brought RFD staff together with community leaders to develop cooperative management agreements for micro-watersheds. While a government-supported project has accelerated the emergence of village-level sub-watershed management forums (which in turn now supervise land use in the Nam Sa catchment and five other sub-watersheds in the larger Sam Mun watershed), monitoring studies by social scientists at Chiang Mai University indicate that many tribal communities are starting to establish watershed management organizations on their own accord throughout the greater Ping Watershed located along the border.

High-Potential Areas: The Thailand Working Group felt that the North's upper watersheds should receive priority for community forest management, due to the rapidly emerging interests of local tribal villages, the important linkage to lowland agriculture, and the significance of international border areas. It appears that major grassroots initiatives are being driven by Karen tribal leaders. The Karen have been settled longer in the upland watersheds of North Thailand and are increasingly practicing terraced, irrigated rice cultivation on mid-slopes. Their agricultural systems are threatened by upland tribal communities who clear ridgetop forests to open swidden fields, often disturbing spring flows and sending heavy sediment loads downstream. At the same time, all hill tribes feel vulnerable to lowland Thai migrants and commercial interests ascending into the hills. For these reasons, the Karen are organizing and attempting to work with other hill tribes to forge resource management agreements. The Thai government's growing openness to community-based resource management has encouraged villagers and NGOs to expand these initiatives. The effectiveness of Karen attempts to stabilize resource use and establish management institutions appears related to the existence of tribal networks, according to Uraivan Tan-Kim-Yong. Over the past five years, Karen leaders based in the Omlong sub-watershed have encouraged other Karen communities in the Mae Chaem, Mae Klang, Pai, Mae Tia, and Mae Ya watersheds to initiate management activities. Once Karen villages become organized, they often begin contacting Hmong and other highland tribal communities to encourage them to cooperate.

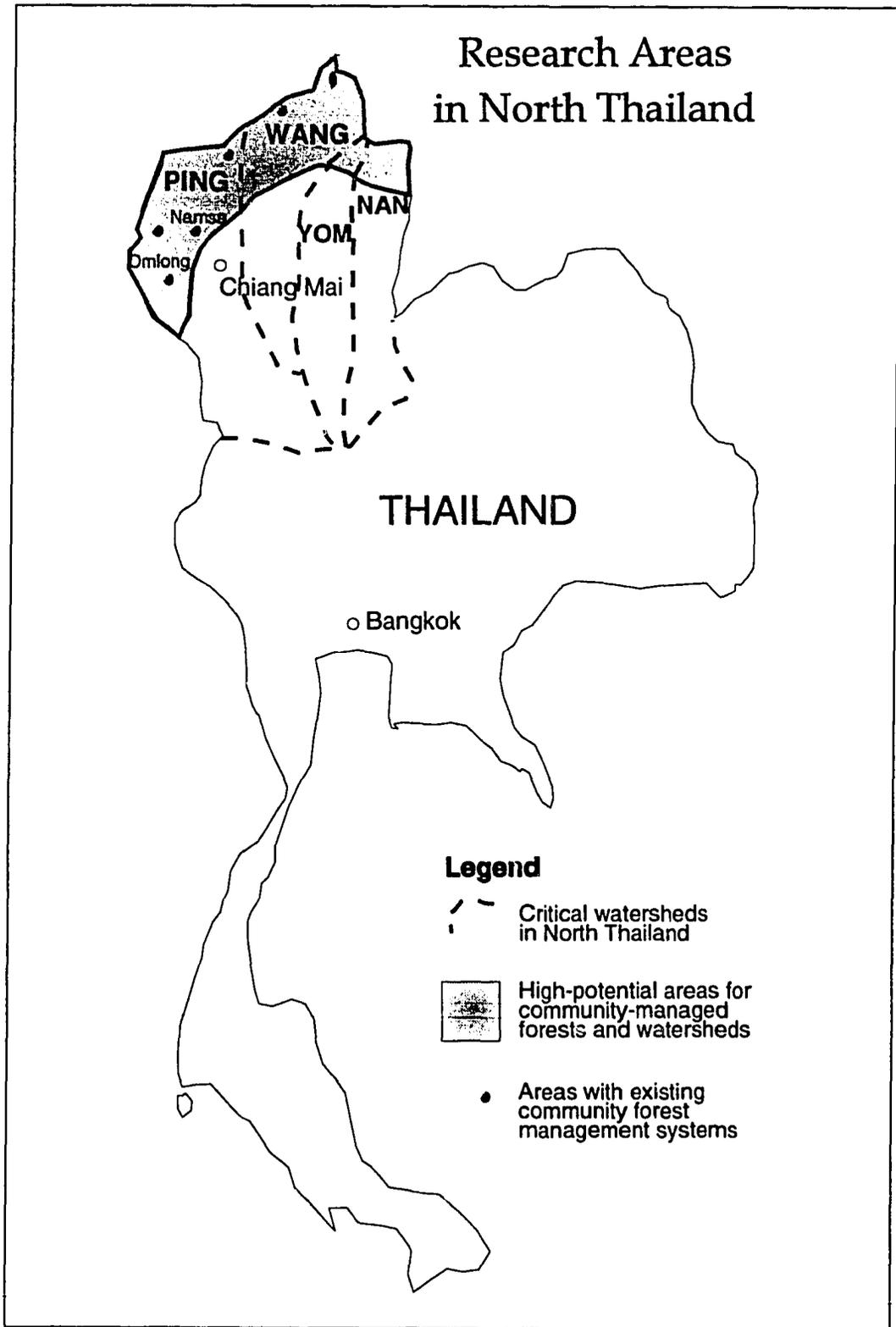
Program Strategy: At the current rate of expansion, large areas of the Ping watershed can be enlisted under local management control within the next decade. Some tribal activities in the Wang and northern Yom and Nan watersheds also appear to be emerging (see Figure 7). The Strategic Action Plan includes monitoring the expansion of these efforts throughout the northern watersheds. A spatial inventory will identify and map areas where tribal communities have already established effective use controls or where such systems are beginning. Existing topographic maps, sketch maps, and three-dimensional watershed models will be used to collect this data, which will then be collated on topographic maps and into a GIS database. Where groups are already present, the RFD will attempt to register them formally. An attempt will also be made to anticipate where such groups can establish community-based watershed management systems. In prospective areas, the working group will assist local foresters and NGOs to visit neighboring watersheds already under community management, or to hold educational activities. Special training and orientation programs will be arranged for RFD field staff and NGOs to apprise them of recent grassroots movements oriented to watershed management. In addition to inventorying and mapping activities, diagnostic studies in sampled communities in the North will be periodically conducted to determine the types of strategies being adopted by villages to regulate resource use. Studies of natural forest regeneration in community-protected watersheds will monitor forest succession patterns. Finally, new economic development programs will be developed based on non-timber forest products and ecotourism. The Northern Thailand Social Forestry Working Group, comprising RFD staff, government upland and watershed development project staff, university researchers, and NGO staff, will oversee the program. The working group will continue to meet regularly to accelerate activities.

India

Country Team: Anil Shah, Ajit Banerjee, Arvind Khare

On the policy front, national guidelines and government orders from fifteen states have already been ratified supporting community empowerment for the management of public lands. Joint forest management (JFM) initiatives in India are already progressing rapidly in some areas. However, despite recent progress, only a small

Figure 7



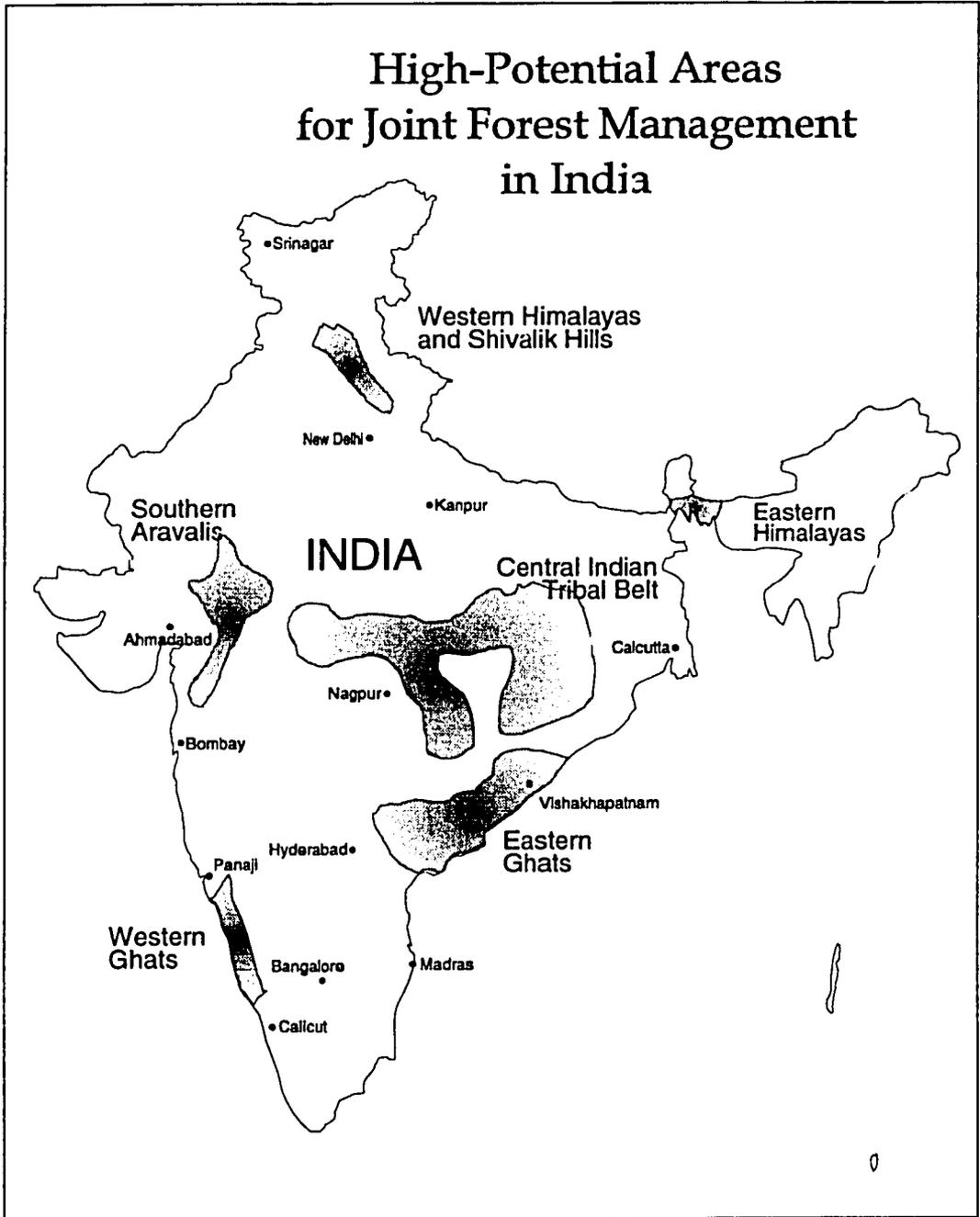
proportion (perhaps 1–2 percent) of India's forests have come under effective access controls. A major gap continues to exist between policies, supportive programs, and field realities. Current policy only allows for communities to protect degraded forests. The India country team has concluded that communities should be allowed to protect any threatened forests, regardless of its vegetative conditions or function, whether reserve, protected, or national park.

High-Potential Areas: Generally, joint forest management should be pursued most intensively in areas with high tribal and forest concentrations (see Figure 8). In such regions, already many communities are interested in acquiring formal authority as forest managers. In targeting specific areas for information campaigns by the Forest Department or NGOs, outside facilitators should seek communities with heavy forest dependencies, interest in acquiring forest management responsibilities, and the presence of motivated forestry field staff, NGOs, and local colleges or universities that could assist the expansion of JFM programs. Priority should also be given to forest areas with good ecological potential for rapid regeneration, characterized by high densities of coppice root stock and multiple species with valuable subsistence and marketable products.

Program Strategy: State-level working groups will need to be bolstered where they exist or be developed in high-potential regions to guide the implementation and acceleration of JFM programs. These working groups will be responsible for collecting inventory information on existing community management groups and identifying priority areas that require information and extension programs. Using the ecological and social criteria outlined above, each state will select one or two forest divisions in each district for intensive program activities.

Each division will form a separate working group under the leadership of the divisional forest officer. The working group will comprise range officers, local NGO workers, and other interested parties. The range officers will be responsible for conducting spatial inventories of their territories, indicating all communities protecting forest tracts, and the ecological condition of each forest patch in the range. This information will be recorded on existing topographic maps of the area on a scale of 1:50,000. Based on this finding, the Divisional Working Group will analyze each range, identifying priority communities and forest tracts where JFM might be most effective. The

Figure 8



Divisional Working Group will arrange exposure visits to allow leaders from high-potential areas to visit successful JFM communities.

A national Working Group for Joint Forest Management needs to be established within the Ministry of Environment and Forests. With the participation of state-level foresters, NGOs, and researchers, the national working group will monitor and support the expansion of JFM activities within India. Over the next five years, research priorities will examine the relationships between informal community forest management organizations and local governance (*panchayat* bodies). Studies will also investigate the equity implications of allocating public resources to selected communities in terms of its effects among villages, among social and gender groups, and between the state and the village. Finally, it will be important to analyze the comparative economic productivity of lands under JFM versus state management. Technical studies will help assess how to enhance the productivity of regeneration and extraction methods for non-timber forest products and their processing and marketing.

PRELIMINARY PLANS FOR NEW NETWORK MEMBERS

Vietnam

CountryTeam: Coordinated by Nguyen Huy Phøn, deputy director of the Forest Inventory and Planning Institute (FIPI), Ministry of Forestry, Hanoi

Recently in Vietnam, the prime minister made reference to the crisis of upland forest degradation. The mountain regions on the northern and western borders of the country are critical watersheds for the densely populated agricultural plains below. They also support approximately sixty ethnic minority groups who practice swidden cultivation. Over one-half of the nation's 18 million hectares of forest land has been deforested (Talbot and Morris 1993). Past policies have stressed resettling ethnic minorities and sedentarizing shifting cultivators; however, this often stimulated an influx of lowlanders into "abandoned" uplands. As in many Asian countries, Vietnam's forests have suffered from conflict between local communities and the government, and from a lack of understanding of indigenous land use practices and tenurial arrangements. As a result of the failure of state resource management policies to address local use needs, forest lands have not received the intensive, systematic management required to sustain them in the face of growing population pressures.

High-Potential Areas: The program will focus on Cuc Phuong National Park, south of Hanoi, and the Da River watershed, west of Hanoi. This watershed, bordering China to the north and Laos to the south and west, has experienced extensive forest degradation in recent decades.

Program Strategy: During the first phase of the program, an interdisciplinary diagnostic research team will be formed at FIPI. Participants will include foresters, social scientists, geographers, and botanists. The team will begin by familiarizing themselves with participatory rapid appraisal (PRA) techniques. Initial training

activities are to be carried out in Cuc Phuong National Park, one of Vietnam's most important wildlife reserves and inhabited by lowland Vietnamese (Kinj) as well as Muongs. The PRA exercise will attempt to document community-forest interaction patterns and dependencies on forest resources in space and time. The data will serve as a basis for dialogue between park managers and local villagers regarding the establishment of a community-managed buffer area around the park. The findings from this initial round of diagnostic research will be presented to members of the Asia Sustainable Forest Management Network at their annual meeting in October 1994, to be held at the park.

In the second phase of the program, additional research sites will be selected for study in the Da River watershed. A small sub-watershed with at least three different ethnic minorities will be selected for study communities. The research area should reflect a variety of land use systems where degraded forest lands possess good regenerative potential. Ideally, the area will have both traditional resource use strategies and newer initiatives to respond to forest management problems and opportunities.

After conducting an initial round of diagnostic research, the FIPI team will hold a series of meetings with local forest agency staff and government officers to explore ways to formalize sub-watershed partnerships between local communities and government. The team will act as both facilitator and documenter of this process. Case materials from the action research program will be shared and extended to other forest department staff.

China

Country Team Leaders: Xu Jianchu and Lu Xing

Proposed Participating Institutions: Kunming Institute of Botany; Yunnan Institute of Geography; Southwest Forest College (Kunming); Yunnan Academy of Forestry; Yunnan Academy of Social Science

In Yunnan province, southwest China, large tracts of forest were felled during World War II. During the Great Leap Forward in the late 1950s, logging expanded to provide impetus for economic growth. Deforestation accelerated again during the Cultural Revolution of the 1960s, leaving little forest in the northern and eastern parts of the province. The province now possesses 10 million hectares of good forest, with another 17 million hectares degraded, much of it located

in upland watersheds to the south and west of Kunming. These critical watersheds, which form the headwaters of the Mekong and Red rivers, are primarily inhabited by minority ethnic groups, most of whom live below poverty levels. Deforestation and erosion there threaten not only these upland communities in Yunnan, but also their neighbors in Thailand, Laos, Cambodia, and Vietnam. Sediment flows into the Yangtze are estimated to exceed 1.4 billion tons annually. Community resource management institutions in remote watersheds in Yunnan's mountains appear to persist and could be strengthened to stabilize resource use. China appears to be open to exploring joint forest management agreements with local communities. However, a better understanding of institutional structure, function, and spatial distribution is urgently needed.

High-Potential Areas: The country team felt that priority attention for community forest management in Yunnan province should be given to the mountainous regions northwest, west, and south of Kunming. These areas are populated by a number of minority ethnic groups who have maintained their cultural traditions and are still dependent on forest lands. Hence, they may have the economic incentive, as well as local institutions and leadership, to formally assume responsibilities for micro- and sub-watersheds. This area comprises the headwaters of the Mekong and Salween rivers, which support large downstream farming populations throughout mainland Southeast Asia.

The team plans to initially focus diagnostic studies in the subtropical forests near Simao, located in the Lancang River watersheds. This area, south of Kunming, possesses isolated, relatively undisturbed forests. However, forest pressures have increased in recent years with the initiation of logging operations in the area. During the first round of research, diagnostic methodologies will be used to inventory and map the locations of indigenous communities and their forest lands.

Program Strategy: In recent years, a number of action research programs have documented indigenous land use systems. The Yunnan Institute of Geography is developing a program to map traditional land use practices using geographic information systems. The Kunming Institute of Botany hosts the newly established Participatory Rapid Appraisal (PRA) Network, with members from several Kunming research organizations. The staff are conducting studies of forest

and agricultural resource use systems in collaboration with the Southeast Asian University Agroecosystems Network. This research is revealing the presence of complex traditional systems of land use that are both efficient and sustainable. Due to the increasing shift from a subsistence to a market economy and the growing presence of outside entrepreneurs and development projects, these systems are endangered.

Lu Xing of the Yunnan Institute of Geography and Xu Jianchu of the Kunming Institute of Botany suggested that a project be initiated to inventory, map, and formally recognize ethnic communities managing forest lands in southern and western Yunnan. A working group will design and monitor the implementation of the project. Diagnostic case studies of each major ethnic group's forest use patterns will be compiled, using methodologies similar to those of other network country teams. Based on the findings from the diagnostic assessments, a series of pilot project sites will be chosen to further field test the guidelines and procedures for formalizing community management agreements. These demonstration areas will also provide a basis for disseminating joint management experiences to neighboring watersheds. The project will be designed and guided by foresters, social scientists, and ecologists in the PRA Network, based in Kunming. The young foresters are former classmates of Lu, a graduate of Kunming's Southwest Forest College. Data collected will include information on customary forest and land boundaries, indigenous management rights and responsibilities, and patterns of forest succession as reflected in indigenous knowledge. The first round of information collection will be used to formulate a typology of systems of indigenous forest management for major ethnic groups in the area.

A time series of aerial photographs and satellite images will also be used to examine changes in forest cover and land use related to government policies and projects. The data will be discussed with forest department staff in provincial- and county-level working groups to examine their implications for changes in management. Particular emphasis will be placed on assessing the feasibility of formally empowering community groups as joint managers of public forest lands.

Once the first round of data has been collected and discussed at the working-group level, a policy workshop will be held in Kunming to disseminate the findings and prepare guidelines for implementing joint management agreements. Periodically, during the course of the program senior researchers, foresters, planners, and community leaders will visit watersheds in North Thailand, where ethnic tribal groups similar to those in Yunnan are rapidly extending community forest management systems.

Nepal

Country Team: Madhav Ghimire, C.P. Upadhyaya, Ridish K. Pokharel

Nepal, like many other Asian countries, has experienced considerable activity in the community forestry sector over the past decade. Despite many bilateral and multilateral programs, progress in establishing community forest management systems has been slow. With a population approaching twenty million, pressures on fragile hill forests are high. A policy shift over the past few years to empower local user communities, rather than local *panchayat* governments, has helped to decentralize authority.

High-Potential Areas: Despite the massive investment in community forestry in the middle hills of Nepal in recent decades, the most threatened forests—those of the Churia Range (Siwalik hills) just above the Terai plains—have received less attention. Due to their proximity to Terai road networks, the forests of the Churia Range have been rapidly exploited. They are also under pressure from hill migrants who clear the land for farming. The indigenous tribal communities, including Chepang, Tharus, and Sunawar, are often unable to withstand the political and economic power of the Terai and hill people. New ways to strengthen local communities as forest managers will be important, not only in preserving the Churia forests but also in maintaining their hydrological functions for the primary grain-producing regions in the Terai plains.

Program Strategy: The Nepal team plans to identify a small group of young district forest officers working in the Churia area who are interested in experimenting with new techniques for mapping local forest tracts and user communities. Through this activity, they will develop procedures for locating vulnerable forest areas and communities that could protect forests under pressure. The objective is to design strategic spatial and social planning tools for territorial forest administrators that facilitate community participation activities.

DONOR GROUP RECOMMENDATIONS

Donor Group: Pamela Muick, Eva Wollenberg, Alex Moad, Kathryn Saterson, Linda Lind, Stephen Kelleher, Malcolm Jansen, and Jeff Sayer

Donors are also faced with formidable challenges as they attempt to support strategies to stabilize Asia's forests. Most agree that past capital investments in plantations and technologies have had little positive impact on ensuring the survival of natural forest ecosystems. Donor agencies operating in the postwar era have assumed that their primary role is capital and technology transfer. The role of bilateral and multilateral donors assisting forest departments and rural villages in decentralizing management is far less clear. There is an immense need for research, training, inventorying, surveying, and mapping. Still, many of the operational strategies for conducting these activities are still in an early phase of development.

Pam Muick from USAID's Asia Bureau for the Environment, reporting for the donor group, noted that although bilateral agencies are experimenting with small grants programs, these strategies are often time-consuming due to the excessive paperwork required. Bilateral agencies are also responsible to their governments to ensure the proper use of development funds and consequently must provide extensive documentation and monitoring. These requirements constrain such agencies' ability to respond rapidly to requests for flexible funds. USAID is experimenting with the provision of large grants to umbrella NGOs to expedite the flow of funds to smaller NGOs. Examples include the Biodiversity Conservation Network, administered through the World Wildlife Fund, and a recent grant to the Foundation for the Philippine's Environment.

The donor group also noted the need for better coordination among funders. They suggested the possibility of forming a donor group on community forestry. Currently, a series of working groups, roundtables, and seminars are periodically held in Washington, D.C. The Consultative Group on Biodiversity and the Environmental Grant Makers Association are examples; however, both are under-represented by donors outside the United States and need to expand their membership.

The donor group concluded that there was a need for donors to be more consistent in their funding priorities. Abandoning grantees who are still learning to be effective can undermine capacity building. The development of strategic plans by donors that are shared with grantees and NGOs would be a helpful mechanism in facilitating coordination between donors and implementing groups.

The Indonesian country team made several recommendations to donors regarding ways to enhance their effectiveness. These recommendations deserve serious consideration since they are contributed by individuals with extensive direct contact with donor-supported forestry projects.

1. Donors need to be more flexible in developing and running projects, with more two-way discussion and information flow. Funding should flow directly from the donor to the implementing agency, not through intermediary consulting firms.
2. Many foreign consultants have limited experience in the country context. Even when they have background, they are often under pressure to deliver results to their funding agency and are not effective in transferring skills to local counterparts. Local consultants are often not given sufficient attention as counterparts. Ultimately, much of the donor investment returns to the country of origin through the consulting firm, leaving little behind in enhanced local capacity.
3. Many projects lack clear phase-out strategies. They create unrealistic financial and institutional dependencies, and when the project ends, there is little continuity. Local government agencies are blamed when project activities cease and goals are not achieved. Resource management projects need to be supported in such a way that they do not create dependencies, but rather build local capacities to sustain themselves after project's end.
4. Donors should provide more support for forestry research and educational institutions, particularly those that build appreciation and understanding of indigenous forest management knowledge and community management strategies.

It was observed during the meeting that while many planners in developing nations may feel it is the role of the North to make much greater financial contributions to the forestry sector, experience indicates that massive financial investments in emerging community forest management initiatives may be counterproductive. A recent case from India dramatically illustrates this problem. In south Rajasthan,

a dedicated divisional forest officer noted that much of his staff's time is devoted to planting a few hundred hectares of highly degraded land using donor funds, while the remaining 170,000 hectares of forest lands under his administration are rapidly degrading due to illegal cutting and overgrazing. The donor support is, in fact, drawing attention away from focusing staff time on resolving the resource conflicts that are driving forest degradation. The hundreds of millions of dollars invested in plantation work do little to resolve the management crisis confronting natural forests, and the huge sums of borrowed money build large national debts that must be repaid in the future.

Perhaps even more subtly undermining, foreign assistance flows primarily to government agencies. This empowers the government, not the forest communities that are the most critical element in stabilizing forests, with resources. While there is little doubt of the sincerity of donor's efforts to contribute to solutions to forest degradation, serious questions arise over their standard modes of operation. Smaller quantities of flexible funding, provided in a phased manner with careful monitoring through cooperative working groups, might help donor agencies learn to work more effectively with government agencies and communities. Better interactions among donor NGOs and bilateral and multilateral agencies would allow each to draw from their strengths and complement each other's work.

CONCLUSION

Around the world, we increasingly observe the direct linkages between natural resource degradation, rural poverty, and social disruption and conflict. From the degraded *sal* scrub forests of West Bengal, where for six months each year Santhal tribal men are forced to migrate to urban areas for wage employment, to the rural outback of Chiapas, Mexico, where violent rebellions by impoverished indigenous farmers have forced the state's military to intervene, the direct influences of environmental instability on the social and economic stability of agrarian communities are evident.

A growing body of field evidence uncovered by paleoecologists and biologists strongly indicates that most of the world's rain forests are not "virgin" forests at all. In fact, it appears humans have lived in and manipulated these forests for centuries or even millennia in both the New and Old World tropics. This reality is forcing radical redefinitions of western concepts of "primary" forest and its "scientific" management. New studies are also showing that the world's tropical rain forests are more resilient than was earlier believed. Destruction and regeneration appear part of a cycle, where small areas of forest recover from even severe natural disturbances as part of an efficient process of patch dynamics.⁷ Network studies indicate that this natural biological process of decline and regrowth is the basis for many indigenous swidden forest farming systems used sustainably throughout Asia for centuries. Such new research supports the wisdom of local forest communities as the logical and, indeed, original ecologists and forest managers.

Participants at the Policy Dialogue repeatedly noted the exciting potential for community forest management throughout Asia. A common understanding emerged regarding the historical roots of the forest management crisis and the potential solutions that might be found in rural settings through a greater reliance on nature and local protection. The consensus of the body was that exchanges between countries are a key element in accelerating the learning of ways to build cooperative linkages between the formal forestry sector and informal forest user groups. Since each country deals with the same

generic set of conflicts between rural communities and the urban, commercial, and government sectors, strategies to resolve conflicts and create partnerships for sustainable resource use have broad relevance. The Asia Sustainable Forest Management Network proposes to continue its program of diagnostic research, regional exchanges, publications, and training in an effort to disseminate learning and facilitate the greater involvement of rural people in the management of public forest lands.

NOTES

1. Network publications can be obtained by writing to Mark Poffenberger and Betsy McGean, editors, Asia Sustainable Forest Network Secretariat, Program on Environment, East-West Center, 1777 East-West Road, Honolulu, Hawaii 96848 USA.
2. William Stevens, "Feeding a booming population without destroying the planet," *New York Times*, 5 April 1994, p. B5.
3. Lean and Hinrichsen (1992:71) note that in 1989, of India's total tropical timber production of 248.1 million cubic meters, 226.6 million is estimated to have been used as fuelwood.
4. FAO, 1988, as cited in Ritchie (1992).
5. From Table 5, Annual Reforestation by Objectives, in Royal Forest Department (1991).
6. According to Khare, current average productivity for good forests = 0.83 cubic metric ton/hectare/year; estimated potential productivity for same = 6.53 cubic metric tons/hectare/year.
7. Julie Denslow, Tulane University, in "Rain forests seen as shaped by human hand," *New York Times*, 27 July 1993, p. C10.

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