Migrant Farmers and the Shrinking Forests of Northeast Thailand

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Keepers of the Forest

Land Management Alternatives in Southeast Asia

Editor
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view villagers as serious partners with private industry and the RFD in managing national forest resources, it could bring new vitality to existing collaborative efforts and incentives for public assistance in maintaining and protecting the Kingdom's forest lands.

NOTES

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Years ago the forest was so thick with large trees, vines, wild animals and filled with malaria that only a few hunters had the courage to enter. When Mr. Oon came to settle with his family his ponies were frequently frightened by the dark forest. In time, however, it was the terrorists who brought fear to the farmers who migrated to the Dong Mun. —a Phu Hang villager

TODAY. APPROACHING THE last decade of the twentieth century, the Dong Mun forest in Northeast Thailand bears little resemblance to the environment which confronted the first settlers less than twenty-five years ago. Many of the changes affecting this national reserved forest have undoubtedly been repeated elsewhere throughout the country. Yet, the questions presently confronting government officials and villagers differ strikingly from those which existed when the first settlers entered the forest in 1960. Growing shortages of arable land, instability of agricultural markets and prices, government efforts to limit forest access, and concern over future availability of land and security of land tenure are much more the questions of today than of the past. Although it is difficult to separate these issues from the rapid postwar social and economic changes in Thailand, they have distinct historical origins. The macro-level forces and policies which have affected forest and land-use change in the Northeast were examined historically in Chapters 4 and 9. This chapter explores some of these issues in the context of two forest land management programs recently implemented in Phu Hang and Non Amnuay villages in the Dong Mun National Reserved Forest in Northeast Thailand.¹

THE DONG MUN NATIONAL RESERVED FOREST

The past twenty years have brought significant social and economic change in Thailand. Progress toward planned targets for economic growth and
development, however, is increasingly affected by problems with the use and management of basic natural resources. One symptom of these problems has been the accelerated depletion of forest resources. In Northeast Thailand, the largest and poorest region of the country, high rates of postwar population growth, instability in the region’s rainfed farming systems, and a shrinking amount of arable land have made reserved forests the final resource frontier for many poor and landless rural households, giving these forests the highest rates of illegal encroachment and deforestation.

In 1964, the year of the most recent Thai legislation creating national reserved forests, the Dong Mun forest encompassed 590 square kilometers of the upper Lam Pao watershed in Kalasin and Udornthani provinces. The following year approximately 414 square kilometers of the forest were designated as the Dong Mun National Reserved Forest. Between 1961 and 1974, annual deforestation rates by province varied from 1 to 5 percent throughout the Northeast and generally exceeded 4 percent in the Korat Triangle. A more recent analysis of land use by watershed area between 1973 and 1983 shows that these high rates continued through 1978, but have generally declined since then. One of the few notable exceptions to this trend has been in the Lam Pao subwatershed, which includes the Dong Mun forest (Figure 10.1). Here, the area of reserved forest declined between 1973 and 1978 at an annual rate of 8.9 percent, significantly above the regional rate for Northeast watershed areas. Over the next five years this rate accelerated to 11.2 percent per year, leaving degraded less than one-half of the area originally designated as reserved forest.

The Dong Mun is primarily a dry dipterocarp forest. Above 500 meters there is some dry evergreen forest, at least 30 percent of which is deciduous. The dry dipterocarp forest covers the lower elevations between 200 and 500 meters and is comparatively lower in height, and almost 90 percent of the trees are shedding species. At one time the forest contained valuable stocks of commercial grade hardwoods, a diverse and abundant wildlife, and a variety of edible foods such as honey, mushrooms, fruit, and wild vegetables. Although now vastly depleted, tigers, elephant, barking deer, wild pigs and chickens, monitor lizards, monkeys, gibbons, and many bird species once inhabited the forest in large numbers. Logging concession rights in the Dong Mun forest were originally granted to two saw mills in 1961, but were later cancelled in 1965 when the area was declared reserved forest. New thirty-year concession rights for an area of 590 square kilometers of the forest were granted in 1975 to the Kalasin Lumber Company.

The topography of this area is dominated by a series of mini-watersheds and uplands which cover the upper Lam Pao watershed (Figure 10.2). Elevations reach 500 meters in the northwest and diminish to around 200 meters near the Lam Pao reservoir in the east. Two smaller streams, the Huai Diak and Huai Lao drain separate mini-watersheds west of these villages and have been important in the settlement, forest clearance, and political history of this part of the forest. The principal soil types within the forest are clayey paleustults on lower and middle terraces and a generally undefined slope complex of hill soils on steeper slopes and at higher elevations. Loamy paleustults and paleaquults, which will sup-
Figure 10.2. Environs of the forest village and STK study sites in the Dong Mun Reserved Forest

port irrigated rice and some sugar cane, are also found along the Huai Hin Lat and smaller streams. Elsewhere, soils in areas of cleared forest on upper terraces and lower slopes retain moisture better and have been used almost exclusively for field crops. Annual precipitation is between 1,300 and 1,400 millimeters, although the distribution and amounts of rainfall for much of this area vary in a way typical of the entire Northeast.

Despite the visible evidence of deforestation and timber harvesting in the Dong Mun forest, the social forces that accompanied these processes are not so easily recognized. Immigration and encroachment on forest land accelerated early in the last decade and continued intermittently throughout a period of political instability in the 1970s when much of the forest was controlled by leftist guerrillas. The guerrillas' influence adversely affected settlement, commercial logging, private control of land, and even the villagers' personal safety. The government's initial response to these conditions was an anti-terrorist campaign within the forest by the army and Border Patrol Police. In 1975, an amnesty for illegal residents of reserved forests contributed to new waves of immigration, settlement, and encroachment. Over the next five years, two new forest land management programs were implemented in Phu Hang and Non Amnuay: the Forest Village Program and the National Forest Land Allotment Project. These projects have reduced rates of forest encroachment and population growth, but they have also limited individual landholdings, prohibited some residents from obtaining land, and fostered social and economic conflicts that continue to plague these communities. The following sections outline the design and objectives of these forest land management programs, and the turbulent settlement history that preceded their implementation.

FOREST LAND MANAGEMENT PROGRAMS IN PHU HANG AND NON AMNUAY

Deforestation and illegal encroachment on forest land have led to several new initiatives to improve government control and management of these important resource systems. In 1975 the Thai cabinet approved formation of the National Forest Land Management Division (NFLMD) within the Royal Forestry Department (RFD) and the Forest Village Program, responsibility for the administration and implementation of which was given to the NFLMD. Two years later the NFLMD received cabinet approval to implement the National Forest Land Allotment (STK) Project. The Thai cabinet then gave amnesty to all illegal residents of reserved forests, an action intended to facilitate these projects. Both projects share common goals of limiting forest land degradation, restricting illegal encroachment on reserved forest lands, consolidating residents into permanent settlements to facilitate provision of government services, and furthering the government's national internal security policy. Thus, direct government intervention was framed in terms of national security and the need to distinguish between terrorist elements and legitimate villagers loyal to the government. These programs have slowed encroachment on reserved forest lands, controlled the process of land occupancy, and imposed limits on the amount of land households may use for agriculture. This has also created sharply different reactions among the residents of these two villages.
The Forest Village Program in Phu Hang

In 1978, Phu Hang was formally designated a “development village,” which enabled the NFLMD to implement the Forest Village Program. In preparation for this program, the area and its population were surveyed, a five-year plan of operations was developed, and principles were established to determine which resident households were qualified to join the project. A total of 2,320 hectares of degraded forest land was set aside as the project area: 1,120 hectares for agriculture and 1,200 hectares for reforestation. The type of forest village model implemented in Phu Hang provided for (1) improvement of the existing village, (2) provision of infrastructure and basic village services, (3) participation by all households residing in the project area before 1978, and (4) the allocation of 2.4 hectares of forest land per household (2.32 hectares for agricultural activity and 0.08 for houseplot area). Agricultural land allotments included cultivation, occupancy, and inheritance rights, but not formal ownership. These conditions were defined in use certificates issued to each household that remained valid for five years. Community services to be provided by appropriate government agencies included agricultural cooperatives and extension services and a program of agricultural credit and loans set up by the Bank for Agriculture and Agricultural Cooperative (BAAC). Reforestation activities were to provide paid employment in tree seeding production, planting for forest restoration and community forests, and distribution of tree seedlings for planting on private land.

The National Forest Land Allotment (STK) Project in Non Amnuay Village

Continued forest land encroachment and problems in implementing the Forest Village Program prompted renewed consideration of alternative solutions to these problems. In 1981 the Thai cabinet granted formal approval of the National Forest Land Allotment (STK) Project as a remedial solution. This project was primarily motivated by the slow progress in developing new forest villages, the high costs of establishing these villages, and inadequate budgets for this work.

The STK Project has had objectives similar to those of the Forest Village Program: to grant agricultural land entitlements in reserved forests, promote reforestation and conservation of degraded forest land, improve relations between forestry officials and local residents, and discourage repeated migration and encroachment on reserved forest land. A committee of local and provincial officials, with the provincial governor, coordinated these projects. Special STK Centers were established in RDF regional offices to plan, monitor, and implement activities in specific project locations. (The STK Center responsible for the Non Amnuay project was located in Khon Kaen.) Of particular importance in these planning activities were (1) meetings with local residents to explain the project, advise them of the qualification requirements, and discuss application procedures, and (2) surveys of the site to determine that land for which entitlement applications had been received was clearly demarcated from adjoining plots and no other claims existed to that land.

The STK Project is based on a system of land entitlements for crop agriculture on degraded forest lands. These entitlements provide legal rights of use, but prohibit subdivision of the land or its transfer except by inheritance. The primary requirement for obtaining an entitlement was demonstration of residence or cultivation of land prior to January 1, 1982. Qualified households were granted 2.4 hectares of land and STK 1 certificates granting land-use rights and other conditions of their land entitlement. Violation of the terms of these certificates incurred their cancellation and the loss of any legal rights to contest this decision.

The STK Project in Non Amnuay has differed from the Forest Village Program in Phu Hang in a number of important respects. No land was identified or allocated for houselots, village paths and roads were not developed, and no village infrastructure or services were provided. Land allocations were limited to a maximum of 2.4 hectares per household, but previously claimed and cleared land could continue to be cultivated by paying an annual fee of US$12 per hectare. Further, this land was not confiscated for reallocation, which allowed many of the original claimants to retain the right to use land in which they had already invested labor and capital.

In short, both of these programs share common goals and objectives, but differ in their land allotment procedures, the extent of government involvement in village affairs, and in the provision of village infrastructure. These differences, however, provide only a partial explanation for the villagers’ somewhat polarized view of these projects. Factors such as historical settlement patterns, attitudes toward land and forest resources reflected in traditional tenure systems, political unrest, and the effects of immigration on village social and economic organization have been equally important. These factors influenced the circumstances under which these forest land management programs were implemented in ways examined in the following section.

THE SETTLEMENT OF PHU HANG AND NON AMNUAY VILLAGES

Free Occupancy

Until the early 1960s, the Dong Mun forest remained almost entirely undisturbed by human activity. Occasional visits by small groups of hunters and the presence of a few itinerant Buddhist monks represented only
a transient human presence in the forest. The dense forest, wild animals, and malaria appear to have effectively discouraged neighboring forest-margin communities from claiming land and clearing it for cultivation. The subsequent settlement history of this area can be divided into three stages based on the type and conditions of land claims, the rate and composition of settlement growth and forest clearance and the extent of government intervention in the area. The details of this process provide a framework central to understanding the motives behind government intervention programs, their impacts, and the type of system that is evolving in the villages of Phu Hang and Non Amnuay.

In 1961, the government established the district of Tha Kantho and granted exclusive logging rights to areas of the forest to two companies in Kalasin and Udon thani. These developments may have precipitated the first phase of forest land claims that ultimately led to new settlements. This period may be characterized as one of free occupancy, during which forest land was claimed by exercising squatter’s rights, marking boundaries of these claims by notching trees, and inserting bundles of twisted grass (yakha) to identify informal ownership rights. A few officials from Huay Yang Dong village on the southern edge of the forest established this type of claim to areas of forest land between their village and the present site of Phu Hang, but none of this land was actually occupied or cleared, and none of these claims were formally recorded. Control over this land was exercised through cab cong rights embodied in traditional, informal land-tenure systems? In 1961, eight households from Tha Kao and Chang Kaew villages established a small hamlet at Nong Saeng on the northern edge of the forest and claimed large tracts of land as far south as the Huai Hin Lat. A few subsistence crops were planted in forest swidden and later, as more lower terrace land was cleared for cultivation, irrigated wet rice was planted. When the Dong Mun was declared a reserved forest in 1964, Royal Forestry Department officials evicted these households from their land for violating the new laws. Each household was fined and prohibited from cultivating land they had already cleared. Encroachment into the forest ceased for the next six years, although these settlers continued to cultivate this land secretly while living in the nearby village of Koeng.

Increased migration and establishment of the first permanent settlement (around 1970) marked the beginning of a second phase in land occupancy and settlement. Villagers defined this process as forest land pioneer ing, which involved occupancy of land rather than simply claiming land. The terms of informal land-tenure systems continued to govern land claims, but as more settlers arrived the sale of land and its clearance for agricultural activities increased.

In 1971, Mr. Oon and eighteen members of his extended family from Udon thani province reached the site of Phu Hang village. His primary reasons for coming to the Dong Mun forest were land shortages in Kumphawapi district, Udornthani, the flooding of his land by the Lam Pao reservoir, and the inadequate compensation and resettlement opportunities provided by the dam authorities.8 The settlers immediately built some small houses without walls near the Huai Hin Lat, claimed large tracts of land, and began to clear forest swidden for crops. Over the next eighteen months Mr. Oon convinced nine additional households to immigrate to Phu Hang from their villages along the southern edge of the forest. In 1972, these settlers had their first contact with members of a leftist guerrilla band who came to assist them in harvesting rice.

**Guerrilla Control**

By 1973, settlement patterns, rates of forest clearance, and individual flexibility in claiming land had begun to change. These changes were associated with renewed commercial logging activities, rising immigration rates, and the increased assertion of land control by leftist guerrillas. Two commercial logging companies from Nam Phong and Yang Talad districts actively began to harvest timber on concession areas and extended the logging road reaching into the forest from the north. Almost immediately, twenty new households arrived to settle near Phu Hang. The largest group was from Loei, but others came from Udornthani, Nakorn Ratchasima, Khon Kaen, Mahasarakham, and Kalasin provinces.9 Many of these early settlers confirmed that their decision to migrate to the Dong Mun forest was influenced by rumors that leftist guerrillas were allocating forest land. A year later Mr. Oon encouraged another fifty households from nearby forest-margin villages to settle in Phu Hang by giving each 3.2 hectares of the forest land he had claimed previously. No formal title documents or certificates of occupancy accompanied these land transfers, which quickly became a source of conflict between settlers and the leftist guerrillas. Because of the large amount of land distributed by Mr. Oon, the guerrillas warned the villagers that all land claims must stop. Private distribution of land must first have their approval, and all claimed land would be subject to confiscation. Rumors threatening the conscription of village youths prompted a general exodus of many older students and the school teachers. Meanwhile, the original settlers of Nong Saeng had returned to that village, accompanied by thirty households from the villages of Chang Kaew, Yang, and other communities in Kalasin, Udornthani, and Mahasarakham. This quickly brought the size of Nong Saeng to over 200 households. Land sales began as the original settlers transferred control of some of their cab cong holdings to new immigrants at prices reported to have been between US$60 and US$90 per hectare. However, the guerrillas again intervened to prohibit land sales, threatened to appropriate all individual land claims, and began to relocate land on the basis of four
hectares per household. Apparently this enforced “land reform” program was partly intended to strengthen the guerrillas’ prohibition on forest clearance and thus protect the location of its base camp in the forest.

Increased immigration during the mid-1970s accelerated land conflicts with the guerrillas and resulted in open confrontations and the deaths of several people. By 1975, the guerrillas had forbidden all transactions involving the sale or transfer of land, villagers were prohibited from claiming or clearing forest land, and all privately controlled land was appropriated by the leftists for redistribution on the basis of 3.2 hectares per household. Border Patrol Police (BPP) were posted to the area and fighting intensified over the next several years between the guerrillas, the BPP, and supporting units of the Thai army. A year later conditions had so deteriorated that Phu Hang had declined from 105 to 60 households and immigration had stopped entirely.

Despite continued fighting, some villagers indicated that a fragile accommodation was reached with the guerrillas. The present site of Non Amnuay village was first occupied around this time by Mr. Oon and several members of his extended family. During frequent trips to Nong Saeng, he often noted the large areas of unsettled and as yet unclaimed land north of the Huai Hin Lat. In the mid-1970s, accompanied by a few family members, he built a small hut in this area and began to clear some land. In 1979 he was joined by ten households from Mukdahan and Nong Khai provinces who were relatives of his son-in-law. A few years later, other households dissatisfied with the land controls imposed on Phu Hang by the Forest Village Program joined Mr. Oon at this small hamlet.

Throughout the 1970s, the rate and pattern of forest clearance were direct results of immigration and the level of political stability (see Figure 10.3). This process represents the direct actions of villagers in cutting timber for domestic use and commercial sale, and the expansion of agricultural activity rather than timber harvesting by logging companies. The spatial configuration of this process also illustrates the guerrillas’ growing influence, their prohibitions on clearing forest, and the political instability in this area during the 1970s. Between 1971 and 1973 the area of cleared forest spread over lower and middle terrace lands to a distance of several kilometers around Phu Hang village. Timber was used for house construction and the land was devoted to small garden plots for vegetables, swidden for rice, and houselot areas. Forest land continued to be cleared to the east and south of Phu Hang even as open confrontations between the guerrillas and units of the Thai army and Border Patrol Police intensified. However, little land was cleared in the uplands along the Huai Diak until after 1980, when fighting had ceased. Timber then began to be cut in the areas west of the village, and upland swidden were developed for the cultivation of rice and corn. The forest margins also began to recede northward as settlement and forest clearance expanded around Non Amnuay.

By 1985, large areas of the upper slope west of both villages was partially deforested to a distance of four kilometers, and most of the remaining land had been converted to agriculture. The small remnants of the original dense forest are now found only at higher elevations and in the undulating landscape of irrigated rice and field crops that stretches eastward toward the Lam Pao reservoir.

**Government Control**

The most recent phase of settlement and land occupancy began toward the end of the last decade. This period is characterized by greater government intervention, the introduction of two new forest land management programs, increased controls on forest land encroachment, a rapid acceleration in the rate of immigration, and a return to open sales of land. As fighting drew to a close around 1980, both villages began to grow from...
migrant. This trend was related to (1) improved accessibility, (2) a 1978 amnesty for illegal residents of reserved forests, (3) implementation of the Forest Village Program (FVP) in Phu Hang in 1978 and the National Forest Land Allotment Program (STK) in Non Amnuay five years later, and (4) the end of open conflict with leftist guerrillas. Access improved when the laterite road linking Phu Hang to Nong Kung Si was extended to the provincial capital in 1978 and resurfaced with asphalt two years later. In 1983 the northern section of this route through Non Amnuay to Tha Kan-tho was also resurfaced to permit year-round vehicle traffic. The amnesty granted to illegal residents of reserved forests was intended to stabilize forest land encroachment, but appears to have had the opposite effect in the Dong Mun forest. After news of the amnesty became commonly known, many of the immigrant households in Phu Hang and Non Amnuay believed that by claiming land in reserved forests they would receive title to the land. Consequently, the amnesty and subsequent announcements of the FVP and STK programs caused immigration to rise dramatically, which had an immediate impact on the local land market.

Despite the political instability of the 1970s, an active land market had developed based primarily on sales of land to new settlers. The average sale prices for forest land, cleared forest, and field crop land between 1970 and 1984 are shown in Figure 10.4.9 Sale prices for all types of land appear to have remained below US$25 per hectare through 1972, although there are indications of an upward trend in land prices. Forest land continued to be "sold" during the next several years, especially in the area west of Phu Hang, where a second group of immigrants from Loei paid from US$36 to US$42 per hectare for uncleared forest land. Open sales then declined as leftist guerrilla influence increased and by 1974 even land sold secretly was only bringing US$5 per hectare. This situation continued until 1977 or 1978, when land transactions and prices began to rise dramatically. During the next six years the price for house lot land, previously occupied freely within the village, rose from US$800 to over US$2,400 per hectare and the cost of one hectare of cleared swidden and uncleared forest land rose from an average of US$50 to over US$200 by 1982.

Several factors influenced these changes in the local land market. First, immigration following the amnesty for illegal residents of reserved forests and the creation of the Forest Village Program increased the demand for land and drove up local market prices. Second, the prospects of having land confiscated by the Forest Village Program, which restricted the size of household land allocations, prompted many older residents to sell surplus cultivated lower and middle terrace land and claimed but uncleared areas of reserved forest. Third, topographic conditions limited the area of lower terrace land suitable for irrigated paddy cultivation, which tended to increase the value of such land as immigration swelled the populations of both communities. Finally, as the basis of household economy shifted

![Figure 10.4. Land market prices, 1971–1984](image)

from subsistence cultivation to the production of cash crops, more cleared land was transferred into field crop production, enhancing both the value and prices for this land. Thus, for various reasons, the price of land rose, even though land transactions during this period of growth took place entirely within the context of informal tenure arrangements.11

From a small cluster of houses without walls, these communities have emerged as permanent settlements on the margins of a rapidly receding forest. In less than fifteen years the original nucleus of 21 households that established Phu Hang had grown to over 600 households with a total population of 4,000 residents. In 1985, Non Amnuay included 200 households, composed primarily of the families from Phu Hang and Nong Saeng who founded the village and more recent immigrants. The villagers, with initial help from the Border Patrol Police, have built some community facilities, a small reservoir, a community road network, a health center, and a new school. By 1983, residents of Nong Saeng began to resettle in Non Amnuay and this rapidly growing hamlet was officially recognized as a village. Two Buddhist temples have been built on land donated by a former Nong Saeng villager on the eastern edge of the village and a temporary branch of the Nong Saeng school occupies two new buildings that accommodate over 300 students and seven teachers. Migration has contributed significantly to the growth of these villages and has affected the socioeconomic fabric of both communities, the villagers' reactions to the Forest Village and STK projects, and the long-term prospects for the success of government forest land management programs.
Migration

Migration has been an integral part of the settlement and forest clearance of the Dong Mun and other reserved forests in the Northeast. It has also influenced the initial success of the forest land management programs by affecting their ability to provide sufficient land allotments, control forest land encroachment, stabilize resident populations, and create equitable opportunities among this population. To some degree these problems are also manifest in the social and economic instability of these communities. Consequently, understanding the migration process in these villages and its implications for similar programs in the future is important. The following discussion examines the temporal profile of the migration process, the origins of migrant households by source region or last place of residence, the objective and subjective bases for migrant decision making, and the effects of migrants on village social organization. We have not neglected rates of natural population increase, but these have been difficult to determine. We have accepted a rate of 3 to 4 percent per year based on analogous data for neighboring forest-margin villages, sample fertility-mortality data for some households, and estimates provided by local officials.

As indicated in the previous section, peak periods of immigration in Phu Hang and Non Amnuay have coincided with (1) the slowing of hostilities between leftist guerrillas and the Thai military, (2) initial governmental actions opening the forest to settlement, and (3) the implementation of the Forest Village and STK programs (see Figure 10.5). This process has been dominated by interprovincial migrants, who account for over 60 percent of the current village populations. The decline in migration after 1982 suggests that the cumulative effects of the government programs began to be reflected in subjective conditions for immigration to this area of the Dong Mun forest. That is, government controls on access to forest land, the effects of land allotment programs, and knowledge about opportunities in this area began to influence the decisions of potential immigrants to these villages.

Loei, Udonthani, Khon Kaen, and Nong Khai provinces have been the main source regions for interprovincial migrants to Phu Hang and Non Amnuay (see Figure 10.6). The reasons for this pattern include distance, patterns of intraregional migration since 1965, the spread of cash cropping, instability in areas of rainfed paddy production, and government policy decisions opening reserved forests to settlement. The relative location of the Dong Mun forest with respect to the volume of migrants from adjoining provinces indicates distance had been one factor in this process. Improved accessibility has at the very least facilitated these movements. Moreover, the long-term trends in intraregional, rural-rural migration since 1965 have been out of the Korat Triangle to the north and west.19

Figure 10.5. Interprovincial migration to Phu Hang and Non Amnuay, 1971–1984

This can be partly attributed to land shortages in the more densely settled areas of the Triangle, instability in the system of rainfed rice farming, and market and price incentives supporting the growth in cash cropping. Thus, marginal uplands and unoccupied forest lands less suitable for paddy production have offered opportunities for cultivating kenaf, maize, and cassava.19 This may be especially important in the context of the phenomenon of chain migration illustrated in the data for Phu Hang and Non Amnuay. Household interviews and registration records show that (1) more than 75 percent of the migrant households have come from only four provinces, (2) 40 to 68 percent of these households came from three or fewer districts in these provinces, and (3) the households from these districts came from fewer than five villages.14 In short, the success or relative satisfaction of early movers to the Dong Mun has encouraged others to follow, often from the same villages as those earlier households.

First-time migrants to both villages have come primarily for social reasons: to maintain social bonds with family and friends, accompany parents, marry, or meet social obligations to family and friends. This group represents a clear minority of all migrant households. Most immigrants were highly influenced by personal expectations of increased income and economic security through the land entitlement programs in the Dong Mun forest, and by communications about land fertility, access to forest resources, and the opportunity to obtain title to land (although many migrants acted on incomplete or incorrect information about the qualifi-
cations for land entitlements in both villages). The majority of households moving to Phu Hang and Non Amnuay have migrated more than once, and 25 percent have moved as often as five or six times. These households have migrated mainly for economic reasons, especially poverty, land shortages, low agricultural yields, and the associated effects of drought and flooding, factors consistent with the known conditions and stability in rice farming systems in the areas from which they emigrated. Whether or not these households have lacked sufficient knowledge of upland farming methods to achieve some level of economic success in these locations is unclear; however, this has clearly not affected their adaptation to conditions in the Dong Mun.

The influence of migration can also be seen in the social fabric of both villages. The mechanics of migration to these villages has involved two general patterns. Among the earlier migrants, one or more male household heads visited the area to evaluate land availability and settlement conditions, and later returned with other household members, kinsmen, and friends. Subsequent communications between residents and nonresident kinsmen and friends have also contributed to the process of chain migration, a process typical of the majority of movements to these villages in the last decade. This tended to reinforce a certain local selectivity in the migration process, which has in turn contributed to the rather fragmented social fabric of these villages. There are at least twenty-four separate neighborhood groupings in Phu Hang’s two subvillages, ranging in size from ten to over seventy households. Each neighborhood is identified with a specific group of immigrants who share common kinship and past-residential affiliation, although these groups usually comprise a minority of neighborhood residents. Internal economic and social cooperation within groups/neighborhoods is generally strong, but relations with other neighborhoods in the village are at best weak, and often hostile. This diversity of the village population, reflecting the migration process, has affected social and economic conditions and produced different reactions to the two land allocation programs in Phu Hang and Non Amnuay.

The history of these two communities illustrates a pattern of pioneering land settlement on Thailand’s final resource frontier, its forest lands. In general, settlement has resulted from interprovincial migration fostered by serious population-land pressures, low productivity and instability in the system of rainfed farming, and market and price incentives linked to the production of field crops. Government policies giving amnesty to residents of reserved forests and the granting of land entitlements have attracted large numbers of immigrant rural households to these areas of reserved forest land. This situation has clearly contradicted policy objectives concerned with reducing forest land encroachment and controlling the illegally resident population in reserved forests. These communities have also evolved in areas where the modern institutions of the Thai state are
weakly established, traditional attitudes governing access to undeveloped land and forest resources remain strong, and land control and rights of use are defined by informal tenure systems. This experience also suggests that the government has failed to understand adequately the nature of its population and land problems in the Northeast and their implications for its new programs granting land entitlements in reserved forests.

FARMING THE FOREST:
AGRICULTURE AND FOREST RESOURCE HARVESTING

The earliest settlers in the Dong Mun forest confronted an ecosystem rich in timber, edible forest products and wildlife. Increased human settlement has sharpened the boundaries of that system, reduced the number of natural components, inserted man as a key regulator of important interactions, and reintroduced complexity in the form of social, cultural, and economic institutions. The transitional ecosystem that is emerging combines properties of both the natural forest ecosystem and the rainfed cropping systems typical of Northeast Thailand. Productivity is based primarily on crop production and forest product harvesting, although total production varies considerably between socio-economic groups and villages. These variations are to some extent attributable to the influences produced by the Forest Village and STK projects.

Patterns of Agricultural Production

Village economy in Phu Hang and Non Amnuay is based on the cultivation of cash field crops, subsistence rice production, harvesting of forest products, and wage labor. Once the government imposed restricted access to forest resources, agricultural production became an increasingly important component of the village economy. However, land distribution has been uneven, leaving many households without the opportunity to participate in the intended transition from a forest- to agricultural-based economy.

The median farm size varies from 2.9 hectares in Phu Hang to 3.3 hectares in Non Amnuay. Households in the medium and large farm size categories in Non Amnuay generally cultivate more land than their counterparts in Phu Hang. There are also proportionately three times as many small farmers in Non Amnuay as in Phu Hang, and considerably fewer landless households. The primary reason for this is that the STK Project has allowed households not qualifying for land allotments to rent-in land, and those granted land entitlements to exceed the 2.4-hectare limit by paying user fees for additional land. As a result, over 60 percent of Non Amnuay households cultivate more than 3.2 hectares, as opposed to only 7 percent in Phu Hang. Furthermore, the large-scale landless population in Phu Hang must depend primarily on legal and illicit forest product harvesting and wage labor to meet their basic household subsistence needs. These differences have also been affected by the larger amount of middle and lower terrace land available in Non Amnuay, which allows for more frequent double cropping, relatively higher yields, and a higher average household income from crop agriculture.

The pattern of agricultural land-use in both villages includes cash crop production on 60 percent of the crop land, paddy on 30 percent, and the remainder in agroforestry, fish ponding, and livestock grazing. No common village or public use land areas exist in either village and few farmers use any types of commercial fertilizer or herbicides. Rice is the basic food staple crop and every household with agricultural land cultivates some irrigated or upland rainfed paddy. However, total village rice production remains below current demand, a problem due less to low yields than to the limited amount of suitable paddy land.

The area and types of field crops cultivated have tended to vary considerably with changing market prices and shortages of draft animals. The main field crops are kenaf, cassava, corn, soy beans (Glycine max.), black gram (V. Sinensis), and sesame (Sesamum orientale.). Kenaf is presently grown by one-half of all landed households and by almost two-thirds of the farmers in Non Amnuay. Until recently, cassava was the field crop preferred by a majority of households, but planted area has declined by 50 percent since 1982 due to depressed market prices and the high costs of renting draft animals. This situation has been especially difficult for landless households which have relied on wage labor in cassava cultivation.

District agricultural officers have encouraged crop diversification and intercropping by introducing a number of new crops to both villages. However, success with these efforts has been quite uneven. The promotion of sugar cane and soy beans has been unsuccessful due to high transport costs, low market prices, and inadequate water supplies. Sesame has been adopted for intercropping with corn by almost one-half of the farm households, and black gram has been successfully grown and marketed since 1982 when it was first introduced as a substitute for cassava. Perhaps, the most successful of these new crop innovations has been young corn, introduced by the Laplue Canning Company from Khon Kaen. Its popularity has been based on a short forty-five day planting to harvest period, firm market prices, and a ready market.

The only other forms of noncrop production found in either village are modified forms of agroforestry, fish ponding, and livestock raising. Fruit trees are occasionally grown along field boundaries where soils and drainage are suitable, but this is not a common practice. The intercropping of fruit trees and field crops represents the only type of agroforestry found in either village, although it is a full-time activity by only four house-
holds in Non Amnuay. More widespread adoption of this practice has been hampered by a lack of technical knowledge and experience, high prices and shortages of tree seedlings, and occasional theft of fruit trees. The shortage of livestock, especially water buffalo, is a special problem in both villages. Few animals are available, grazing area is limited, and most households have insufficient capital to purchase draft animals. Consequently, one-half of all households must hire water buffalo from neighboring villages and seasonal hire-rates are as high as US$58. Fish culture in 12m × 12m ponds has been started by ten households and village-wide interest in fish ponding has grown. Because fish stocks in local streams are already depleted and villagers are forbidden to fish in the Lam Pao reservoir, the initial success of these ponds has encouraged talk of establishing a communal village fish pond.

Both forest management programs have sought to provide residents with an agricultural alternative to forest product harvesting. Most farmers with middle- and large-size farms have made this transition, although the small size of land allotments and their capability to sustain productivity under present cropping conditions may yet be a serious problem. However, the large number of small farmers and landless households have been provided with few alternatives and their continued dependence on cutting and harvesting forest resources is unlikely to change under present conditions. Despite village interest in agroforestry and some limited initial success with tree crops, project officials and extension agents have done little to promote this technology.

Forest Resource Harvesting

The harvesting of forest resources is a key component of village economy. Indeed, for many of the smaller farmers and landless households, wage labor and harvesting of forest products are both year-round activities and their primary if not sole sources of income. In general, this population has gained the least from the new forest land management programs, and is the most dependent on the wages and income earned for the legal and illegal harvesting of these resources. The major forest harvesting activities include timber cutting, gathering fuelwood, charcoal production, hunting, and collecting edible plants, fruit, and herbs. Most of these resources are consumed within the village, but some are used to produce handicrafts, furniture, and rough-sawn timber for sale locally or in nearby markets.

Timber cutting is widely practiced in both villages, except by the few households cultivating larger amounts of land. Logs and rough-sawn timber are used primarily for local house construction and secondarily for sale. The principal buyers of timber in recent years have been villagers from Mahasarakham and Roi Et provinces, where fuelwood and lumber are already scarce. Most timber cutting is done during the rainy season because of lower agricultural labor demands and the reduced risk of arrest by Forestry Department patrols. If demand is high, however, contract cutting of timber may continue all year. This work is usually done in groups of two to six people drawn from several households. During 1982 and 1983, a particularly active period of timber harvesting, members of these groups could earn at least US$6 per day and single logs were being sold for US$11 to US$13. Timber cutting also increases when crop yields are low and the demand for wage labor in the village declines. In 1985 almost 20 percent of all households in Non Amnuay, especially the landless and wage-laboring families, cut timber on a regular basis. The areas where timber is cut have constantly changed with expanded settlement and forest clearance. Households in Non Amnuay are still able to cut timber on Phu Noi and Phu No, within two to four kilometers of the village, but the residents of Phu Hang must now travel to the uplands beyond the Huai Diak to find timber, a distance of three to seven kilometers. Since 1978, when timber cutting on reserved forests lands was prohibited, illegally harvested logs have been moved to the village only after dusk to avoid detection by RFD officials.

The main use for timber in both villages is for house construction. Between 1983 and 1985 a total of sixty new houses were built in Non Amnuay, mostly for new immigrants. Current forestry law allows trees to be cut for domestic house construction, but prohibits all forms of private logging for commercial sale. However, a clause in the law enables timber cut for domestic house construction to be sold after that structure has been standing for at least two years. Villagers have exploited this loophole in the law by using reserved forest timber to construct “houses built for sale.” This involves building the structural framework of a house without siding, walls, or permanent roofing. After standing for a two-year period, the house may be dismantled and the timber sold. The average prices for these house frames have ranged from US$115 to US$385, although a few built with better quality and larger timber have been sold for US$1,000 to US$1,500. In late 1987, there were seventy-nine of these structures in Phu Hang and thirty in Non Amnuay. A small number of landless households in Phu Hang are also involved in purchasing, disassembling, and selling the timber from older homes that have been replaced or abandoned. After these structures are disassembled, the timber is transported to other provinces where it may be sold for as much as three times the purchase price. These activities illustrate several fundamental problems arising from the high levels of immigration and the limited access to land imposed by the Forest Village and STK programs.

Timber for local house construction has recently been scarce, especially in Non Amnuay, where immigration has been high since 1982. New immigrants who lack sufficient cash may have to wait an entire year be-
fore they can purchase enough timber to build a house. Timber shortages are the result of more careful monitoring of forest clearance by the RFD, the income which can be earned from selling timber outside of the village, and the dependence of poorer landless and small-size farm households on timber income to purchase rice. Because the Forest Village and STK programs have limited farming and other economic opportunities, landless households have begun to sell their houses and move elsewhere. Many of these households even suggest that they would move to other areas of reserved forest where they might find land. Such behavior, to the extent it typifies similar situations in other forest land management communities, raises important questions about land allocations systems, economic equity within these programs, and how effectively they resolve the problems of forest land encroachment.

Almost all households engage in gathering Greenwood and deadfall wood from the forest for cooking, heating in cooler months, and resale or processing into charcoal. Villagers in Phu Hang prefer fuelwood to charcoal for cooking, while the opposite is generally true in Non Amnuy. This difference is unrelated to current availability of fuelwood or charcoal, labor supplies, or preferences in food preparation; it is rather a measure of length of residence, adaptations made to local fuelwood conditions, and previous experiences with fuelwood shortages in other places. Beginning in 1982, charcoal production in Phu Hang expanded rapidly as increased immigration in Non Amnuy created a larger demand. Ovens or kilns were built to produce charcoal and the price per bag has remained around US$1.35, rising to US$1.50 during the rainy season. Production has declined, however, as the distance to available fuelwood supplies has increased and RFD officials have more closely inspected timber cutting and as landless households have shifted from charcoal production to wage labor in harvesting cassava and retting kenaf.

Villagers collect other forest products for local handicraft activities and to supplement household food supplies. Several households in Phu Hang have received permission to cut timber on reserved forest land to make furniture and flooring for houses. Thirty households in Phu Hang also weave mats from local grasses (Pennisetum pedicellatum) and sedge (Cyperus corymbosus, Cyperus difusus) to supplement household income on an irregular basis. Wild grasses are also collected to make and repair roof thatching. Hunting and collecting edible forest products have always been important postharvest activities in both communities. Chickens, wild boar, rabbits, and occasionally deer were killed in the nearby forest and edible forest plants, mushrooms, fruit, herbs, honey, rattan, and rubber oil have been harvested from the forest, primarily for household consumption. Hunting, however, due to over-exploitation and government controls, has decreased in frequency and increased in length of time and distance. Even the collection of edible forest products by women and younger children now requires them to travel deeper into the forest to find some of these resources.

Forest Resource Dependency

The preceding discussion illustrates the integral part forest resources play in Phu Hang and Non Amnuy. In combination with crop agriculture, they define the total resource base for these populations. Forest resources have diminished in relative importance as this human-forest system has changed with increased settlement, population growth, the expansion of cultivated land, and the controls imposed by the Forest Village and STK programs. Dependency on forest land remains high, however, especially among some segments of the village population, raising questions about the design and implementation of these forest land management programs relative to their stated goals, and about the broader issue of Thai forest policy.

Forest land dependency is defined as the total volume or percentage of annual household consumption needs obtained from forest resources and products harvested from forest land. Values for forest land dependency were obtained in 1985 for a stratified random sample of 2 percent of all households in both communities. Despite problems with methodology and verifiability of data, this index is considered an acceptable measure of dependency. The combined dependency value for both communities is 66 percent (73 percent in Phu Hang and 58 percent in Non Amnuy) (see Figure 10.7). That is, two-thirds of the mean annual household consumption needs in both communities have been obtained from forest resources. This level is the highest among the six forest-margin communities recently studied at three different locations in the Northeast. This degree of dependency in part reflects the transitional state of these human-forest systems. The major changes accompanying this transition include greater definition of systems boundaries, a reduction of natural or biological components, greater human regulation of interactions, and the creation of a new order of complexity and systems properties linked to peoples' cultural, social, and economic activities in the forest. A key question in designing new social forestry initiatives is how to manage these transitional systems to increase productivity without jeopardizing stability, sustainability, or equity in the distribution of the products of these human-forest systems.

It is also possible to interpret this index in the context of the two villages and their separate experiences with the Forest Village and STK programs. Evidently the socio-economic status of households in both communities is inversely related to their dependence on forest resources. Those households with larger amounts of land are less dependent on forest resources than those with little or no land at all. Further, regression values
and the slope of the trend lines suggest this relationship is somewhat stronger in Phu Hang than in Non Amnuay. This reflects historical patterns of land claims and occupancy, different conditions for land allocations under the Forest Village and STK programs, and the failure to anticipate the economic needs of households excluded from the land distribution process. Indeed, the gap between the two estimated regression lines may reflect the effects of these programs in both communities. More importantly, this relationship may imply that those lower on the socio-economic spectrum will continue to exert the most pressure on forest resources and pose the greatest threat to the objective of stabilizing forest land encroachment. Until program design and implementation are adjusted to compensate for this situation, many of these and other villagers residing in reserved forests will continue to depend on harvesting forest resources.

These patterns suggest the types of changes and trade-offs afforded by varying traditional agricultural systems. Swidden cultivation techniques and forest product harvesting, land-tenure practices, and low population densities fostered sustainability and considerable equity in distribution. This appears to have continued through the late 1970s, despite some growth in population. However, implementation of the two forest land management programs and related population growth have adversely affected both the stability and sustainability of established systems. Paddy yields have generally failed by an average of at least 10 percent with increased frequency of field use, the shift of paddy cultivation from uplands to lower terraces, and decreasing access to land. Enforced land allotments and increased immigration have created inequity in the access to and distribution of production, and consequently increased the exploitation of forest resources. Even here, signs of depletion of some forest products are beginning to appear. Although field crops are highly productive, stability is low due to irregular water supplies and fluctuations in market prices and demand. Also, the newly imposed formal tenure systems granting land-use rights have significantly lowered equitability, which has not been buffered by increased use of agroforestry technology. Institutional controls imposed by the Forest Village and STK programs have created many of these changes in the systems structure, which reflect inevitable trade-offs between productivity and stability on one hand and sustainability and equitability on the other. This situation is also manifest in the fabric of social organization and patterns of cooperation in the new institutional structures created in these communities.

SOCI AL AND INSTITUTIONAL ISSUES OF FOREST VILLAGE AND STK PROGRAMS

The importance of institutional and socio-structural issues in developing alternative forest management strategies has often been neglected. Although there is no single set of social and institutional factors which should be considered for every project, some of the more essential ones include: population size, growth, and homogeneity; patterns of land use, ownership, and distribution rights to resources; labor; and modes of social organization, leadership, and mechanisms for collective decision making and mobilizing group action. Perhaps the most important element in designing the social strategy for these projects is properly identifying the unit of social organization or structure that can sustain the social innovations needed to change forest use and management practices. The experience of the Forest Village and STK projects in Phu Hang and Non Amnuay clearly illustrate the significance of these issues and the ways in which their neglect can influence project success.

The basic foundations of social organization in Phu Hang and Non Amnuay are in general the same as in other Thai-Lao villages in the Northeast. A typical community may be characterized as one which is a distinct ecological entity, with a bilateral kinship structure, and where people have a large number of both cognitive and affinal kinsmen in the community. Villages are organized into neighborhoods or khum, which may be occupied by several domestic groups, but do not function to regulate marriage, control property, shape economic cooperation, or worship...
common ancestors. Domestic groups cannot be equated with households, but rather are groups of kinsmen bound by shared needs for social reproductivity and cooperation in agricultural production.

Although the populations in Phu Hang and Non Amnuay share these general attributes, they do so as immigrants in communities which are patchworks of many domestic and kinship groups from disparate locations throughout the Northeast. Village social structure and organization in Non Amnuay is more consistent with the normative foundations of village life in the Northeast outlined briefly above. This is due to the fact that almost 60 percent of its residents formerly lived in Nong Saeng village, its four neighborhoods tend to be dominated by a single domestic or kin group, and immigration has not fragmented these domestic groups and weakened the bases for traditional social and economic cooperation. The more flexible land-allocation policies of the STK program have also minimized access to land as a divisive community issue. In Phu Hang a decidedly different situation exists. The vast majority of village neighborhoods are small, seldom are they dominated by a single domestic or kin group, and residents have few kinsmen elsewhere in the village. Consequently, the role of kinship in reinforcing communal solidarity and cooperative agricultural activities within neighborhoods is much weaker. Where these residential areas are composed of small farmers and landless households, the capacity for economic cooperation within domestic groups has been diminished by their limited land and labour resources. This has also contributed to their relative poverty and under-representation in group decision making on village committees and organizations.

A number of local governance, village development, and self-defense organizations have been established in both communities. These institutions assist village officials in managing community affairs, encourage participation in community-wide development activities, and promote the government’s social, economic, and internal security policies. The model used in designing the Forest Village Program has provided for a government-appointed village headman, a village committee and development fund managed by elected neighborhood members, a rice bank, young adult club, agricultural credit program, and four paramilitary organizations created under the national program of Political Groups for National Security. The STK Project did not provide for any of these village organizations, but district officials have appointed a headman and formed a village committee and development fund. Most neighborhoods also have informal leaders who help resolve social conflicts over land rights, broker marriages, and assist with private financial problems. Their influence in village affairs tends to vary in relation to the size and relative prosperity of their domestic groups and the roles they play in institutions of village governance. Several examples may help to clarify how these social and institutional structures have affected village cohesion.

The government’s appointment of headmen for Phu Hang’s two sub-villages has been a central issue in a number of continuing disputes. These individuals represent two separate domestic neighborhood groups whose members include many of the older and more prosperous middle- and large-size farm households. Villagers assert that their influence on a decision by the village committee to locate new cooperative stores in their own neighborhoods shows favoritism and mismanagement of village funds. The headmen have also imposed a users fee for fishing in the village pond. This decision exerts a heavy burden on the poorer and landless households who, without livestock or other sources of meat, rely heavily on fishing in the pond. Prominent among this group is a cluster of forty-five households that immigrated in 1979 expecting to acquire land in the village. Less than one-third of these households have land, much of which is unsuitable for paddy production, and most are rather poor. Other village institutions, such as the young adult club and village committee, have become ineffective or had been disbanded by 1985 due to mistrust and a lack of cooperation among their members.

A rice bank was formed in Phu Hang in 1979 by the Border Patrol Police (BPP) to provide need-based loans of paddy stock to village residents. The bank has been managed by a BPP-appointed committee, although many of the smaller neighborhoods are not represented. In the past seven years it has given 120 loans, 70 percent of which have gone to recent immigrants, small farmers, and landless households. Almost one-half of this group have remained in debt and defaulted on their loans, while 10 percent have emigrated without repaying loans. The poorer farmers, often the bank’s main clients, have land holdings which are too small and incapable of producing a subsistence yield, even in years of good harvests. In 1985 the bank committee resigned amid disputes between neighborhood groups and committee members over mismanagement and depletion of the bank’s paddy stocks.

The Forest Village Program has also been plagued by conflicts between villagers, foresters responsible for managing the program, and district officials. These disputes illustrate a variety of problems with poor communication about the program’s goals and objectives, implementation policies, and the responsibilities of different government agencies. In 1985, for example, newly arriving immigrants continued to encroach on the reserved forest because the area set aside for land allotments was already occupied and district officials lacked authority to withdraw additional forest land for agricultural allocations. The 465 hectares of project land reserved for reforestation have been badly degraded by village livestock and partially cleared for cultivation. This has occurred because no common land or grazing area was provided for the village, and some project participants have been unwilling to claim their allotted land due to fear of retribution from households that still claim informal squatters rights to this land. In fact,
eighty households were sold land in the reforestation area by older residents who feared their informal claims to this land would not be honored and the land would be confiscated by project officials. Many of these disputes remain unresolved, and are often manifest in the social conflicts between neighborhoods and within village institutions.

The distrust which characterizes relations between villagers and project officials has been partly fostered by poor communications. Inequities in land allocations have made many villagers doubt the sincerity of official arguments that reforestation is in their interest. They have rejected proposals to plant eucalyptus trees on their land to promote reforestation, improve rainfall, and increase soil moisture. On occasion some villagers have even burned and uprooted new tree seedlings in the reforestation area. They see little benefit to themselves in these activities, especially when they do not have ownership rights to the land, land allotments are often insufficient to meet household subsistence needs, and some have no land at all. Residents of Phu Hang, seeing the distinct advantages of the STK Project, have requested that their village be transferred to this program. Indeed, these villagers frequently commented that even the village institutions established under the Forest Village Program were formed to pursue government interests in reforestation rather than to meet the needs of their community.

In comparison, the STK Project in Non Amnuay has been marked by much less social and institutional conflict. Disputes over original land claims were mainly resolved before land entitlements were granted. The entitlement process has also enabled villagers to retain land originally claimed and developed, to cultivate more than 2.4 hectares, and has given landless households opportunities to rent land. Plans to reforest 320 hectares of village land were cancelled once it became clear that the area of land set aside for agricultural land allotments would not be sufficient for the population. This land remains designated for reforestation, but villagers may use it to plant crops while an area of degraded upper slope land is being reforested. The absence of an externally imposed institutional structure also seems to have allowed villagers to create or request only those organizations which will help meet their needs.

The social and institutional characteristics of these communities illustrate the importance of assessing appropriate social strategies in the design and implementation of alternative forest management programs. The social heterogeneity of Phu Hang's predominantly immigrant population and its implications for community cohesion and support for project activities have revealed a central weakness of the Forest Village Program. The externally imposed institutional structure has tended to promote project goals without allowing for the diverse needs of different social and economic groups. It is not surprising that few of these institutions function effectively or enjoy wide support among the various neighborhood groups. Poor communications regarding project goals and how the community will benefit have also compromised the initial success of the Forest Village Program. These problems have also been complicated by poor communications and coordination within and between government organizations, and by a shortage of trained personnel to manage these programs.

Whether the existing institutions of village governance are capable of sustaining these forest management programs remains a serious question. While their structure and authority may be consistent with government policies of creating responsive local government, they are clearly unable to meet diverse community-based needs, build problem-solving capacities, or integrate the technical and social components of these new programs. The lessons from these two projects reemphasize the importance of balancing the socio-cultural and institutional needs of participants with the goals and objectives of this type of alternative forest management program.

MANAGING FORESTS AND PEOPLE

The management of forest resources in Thailand has been dominated by traditional forestry policies emphasizing commercial production, protection against deforestation, and restrictive legislation to discourage encroachment. This approach has been reinforced by a variety of commercial, civil, and land codes that deemphasize preservation and education and create an adversarial relationship between forestry officials and the public. The Forest Village and National Forest Land Allotment programs begun in the Dong Mun forest have emerged from this more orthodox framework as strategies for resolving problems of forest land encroachment, reforesting degraded land, consolidating residents so that government services and programs can be developed, and fostering the objectives of the government's national internal security policy. The historical context and processes surrounding these programs have been examined in this case study for the villages of Phu Hang and Non Amnuay. The design and management problems that villagers have experienced with these programs suggest some larger issues that must be resolved before more equitable and sustainable systems of human-forest management can be realized in Thailand.

A primary goal of these forest land management programs has been to stabilize the population in areas of national reserved forests. The situation in the Dong Mun forest indicates this has been a substantial failure. Both natural birth rates and migration have increased the forest resident population, yet net immigration has been the major component of growth. Indeed, immigration accelerated rather than diminished after these pro-
grams began. This appears to have resulted from several factors. The 1978 decision by the Thai cabinet to grant amnesty to residents in national reserved forest encouraged migration to these areas. How effectively the details of this decision were communicated to the general public is not clear, but clearly many people understood that by establishing residence in reserved forests they could obtain land from the government. It also appears that policy makers have been poorly informed about the land situation in the Northeast and did not anticipate the demographic implications of either amnesty or the Forest Village and STK programs. The effects of this oversight are evident in the overpopulation of both projects relative to land set aside for allocation in persistent immigration, and in the continuing encroachment on forest lands by this population.

A second goal of these programs was to reduce forest land encroachment, if not completely stop it. Some attribute this problem to the Royal Forestry Department's inadequate budget for recruitment and training of officials to police forest lands. While there is merit to this argument, it may also reflect the persistence of more orthodox forest policy and a failure to acknowledge the social dimension of forest resource management. Land entitlements have been the primary strategy for replacing dependency on forest resources with agriculture. Wage labor in tree seedling cultivation, enrichment planting, forest plantation management, and planting community forests were activities intended to provide residents with other suitable occupations and income. However, forest land encroachment has continued because of inequities in the land allocation process, failure to anticipate demands from the continued flow of immigrants, inadequate opportunities for wage labor, and land conflicts embedded in the population's commitment to informal tenure systems.

The persistence of informal tenure systems also reflects larger structural problems in a society undergoing rapid growth and development. Existing forest laws and land codes, despite numerous recent amendments such as the Agricultural Land Reform Act, remain confusing, contradictory, and inadequate for efficient and equitable land control. On this point, Kemp has noted, "as suitable land for cultivation becomes scarce and increases in value, so the weakness of informal tenures based on common ties of kinship and community identity becomes more significant." This has become all the more severe where requisite land surveys and the issuance of title deeds have been slow and reserved forest boundaries are inadequately marked. The confusion over conflicting legislation has led villagers to mistrust government officials, to fail to understand why conventional acceptance of land tax receipts as proof of ownership is disputed, and, in Phu Hang, even to resist confiscation of that land. The failure of planners and project officials to acknowledge these contradictions and resolve them in an efficient and equitable manner will continue to be a major barrier to innovative land management programs, especially in the Northeast where land pressures have reached serious levels.

That these programs coincided with a period of recent internal instability raises another question about their actual intent. Despite their design and implementation by the National Forest Lands Management Division, there is evidence that the primary if not overriding objective of these programs was to isolate and suppress the leftist guerrillas. Among the more unfortunate consequences of this strategy has been the alienation of precisely those segments of the population which national security policy has been intended to protect. This has been emphasized by the support for paramilitary groups in both communities and the correspondingly low level of investment in helping the villages address social and economic problems. Building more responsive local government and rural development programs appears to have had a lower initial priority than satisfying the goals of national security policy. We do not question the appropriateness of this short-term policy goal, but rather the failure to demonstrate a commitment to the community's long-term social and economic needs.

In the final analysis, these forest land management programs illustrate a fundamental problem in rural development programming. One clear lesson is that planning documents call for a participation of program beneficiaries that is seldom achieved in reality. To a considerable degree, this accounts for the differing responses of villagers to the Forest Village and STK programs, and for the problems encountered in achieving project goals. Korten identifies four lessons that appear to summarize most of the central issues surrounding these new initiatives for forest land management in the Dong Mun forest. First, planning and implementation of participatory programs have relied on centralized organizations unable to respond to diverse community-defined needs or to build on community skills and values. Second, implementing agencies have consistently under-invested in creating community problem-solving capacity. Third, the social diversity of target populations, especially highly stratified village social structures, has received insufficient attention. Finally, the social and technical components of the development effort are poorly or insufficiently integrated. In the case of these and other programs designed to stabilize forest ecosystems and ensure that they become more productive, sustainable, and equitable in the distribution of benefits, learning from past lessons can help us to see both the forest and the trees.
NOTES

1. This chapter considers one of three upper watershed areas in Northeast Thailand investigated in 1985-1986 by an interdisciplinary research team supported by the Developing Countries Program of the Ford Foundation. The institutions cooperating in this study were the National Forest Lands Management Division, National Forestry Department, the Department of Social Sciences, Khon Kaen University, and the Faculty of Forestry, Kasetsart University.

2. Thailand. The Royal Gazette. 1968. Ministry Regulation 741. Vol. 82, Section 106. The designation of areas as reserved forest has been made under Sections 5 and 6 of the National Reserved Forest Act of 1964, and as amended by the Ministry of Agriculture and Cooperatives in 1975.


6. See Chapter 4 for a discussion of the 1954 Land Code and the types of formal land occupancy and ownership provided for in this legislation.

7. The term cab cong refers to the act of claiming land under squatter's rights, a condition generally accepted in traditional, informal tenure systems. In the context of these tenure systems this act also acknowledges ownership and the right to hold land for later sale or use, but does not necessarily imply occupancy or clearing of the land for agricultural use.


9. The leftists' growing control over land is suggested by the experience of the sixteen households that emigrated from Loet: upon arrival they were forced to pay an "admissions tax" of US$1.50 per head to homestead land near the Huai Diak.

10. The category, "cleared forest," in Figure 10.4 represents a stage of land use transition between partially cleared but uncultivated cab cong land and fields that are fully cleared and under regular cultivation. The term used by villagers to identify this type of holding and identified in Figure 10.4 as "cleared forest" is lye burg.

11. Since 1982, most transactions in the private land market have involved land outside of the boundaries of the Forest Village and STK project areas. Those obtaining this land have justified ownership by obtaining PBT 5 and PBT 6 receipts for payment of land taxes, although these documents do not accord ownership or any legal protection of land rights under current land laws.


14. The importance of communications between past and potential migrants as a factor in follow-on migration has been well documented in the process of self-managed resettlement in the Northeast. (See Goding, L. A. Peter, et al. 1976. Pa Mong Resettlement: Final Report. Ann Arbor, MI: The Department of Geography and Center for Southeast Asian Studies, University of Michigan.)

15. Sample methodology was based on a four-way matrix with variables for cultivated area, household size, length of residence, and size of household labor force. However, these variables somewhat undervalue dependency since wages and/or income derived from forest product harvesting are not included.


19. The Village Scouts, Thai Volunteers for Country Protection, Voluntary Development for Self-Defense, and Reinforcement for National Security paramilitary organizations are supported by the Border Patrol Police and regional units of the Thai Army. Only the Voluntary Development for Self-Defense group was formed in Non Amnay.

