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Local Institutions in Small Farmers' Adoption of MPTS

A case study of an agricultural land reform area in Eastern Thailand

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Contents

		Page
1.	Introduction	1
	1.1 Background	1
	1.2 Research Issues	1
	1.3 Objectives	1
2.	Agricultural Land Reform and Forestry Development	2
	2.1 Agricultural Land Reform in Thailand	2
	2.2 Forestry Development in a Land Reform Area	2
3.	Description of Research Sites	3
	3.1 Location	3
	3.2 Criteria for Village Selection	3
	3.3 Village Descriptions	4
4.	Alternatives for Forestry Development in a Land Reform Area	6
	4.1 Experiences of Forest Resource Development	6
	4.2 Discussion of Issues	9
5.	The Role of Institutions in Forestry Development	13
	5.1 Farmers' Rights	13
	5.2 Support	14
6.	Conclusions	15
7.	Recommendations	16
	7.1 Management of Land Reform Area	16
	7.2 Participation of Beneficiaries	16
	7.3 Support and Extension Services	17
References		30

Tables

Table 1	Progress of land reform in the study area.	4
Table 2	Comparative returns to land use.	11

Maps

Map 1	Chachoengsao Province and Research Sites	18
Map 2	Community Forest in the Land Reform Area	19
Map 3	Land Use in the Research Site in 1978	20
Map 4	Soils in the Land Reform Area	21
Map 5	Layout of Village A: Ban Nong Yang	22
Map 6	Layout of Village B: Ban Ko Mo 7	23

Appendices

Appendix 1	Chronology of Events	24
Appendix 2	Summary Data on Study Villages	26
Appendix 3	Soils in the Land Reform Area	28
Appendix 4	Contractual Terms for Planting Cashew Nuts	29

1. Introduction

1.1 Background

This report is part of the regional study on Farm and Village Land and Forest Use undertaken by the MPTS Research Network. The case study was carried out in Chachoengsao province in eastern Thailand. The field research was performed in 1989, using the conceptual framework and questionnaire design provided by F/FRED.

The specific aim of this case study is to examine the role of local institutions in the formulation and implementation of social forestry programs. The site selected is of special interest because it is located in an agricultural land-reform area, which implies a certain level of government involvement in planning and management of land use and community development. In particular, the study focussed on the role of forestry development within the overall development of the area.

1.2 Research Issues

The rationale for the study arises from the need to address deforestation in Thailand by planting more trees. Various approaches to encourage tree planting have been implemented. This study looks at how tree planting is encouraged and the results achieved in an area in which agricultural land reform is taking place.

In converting a degraded forest reserve to an agricultural land-reform area, the Government of Thailand requires 20 % of the land be allocated for use as community forest. This is intended to ensure that a minimum level of forest cover will remain within an area otherwise devoted to agriculture.

Competition among various land-use options is an important issue in this context. To what extent is the 20% forest area requirement feasible or even appropriate? What form should it take? What kind of management is required to maintain the forest? What would be the benefit and who would benefit from the forest? These questions need to be considered because where land is a scarce resource, it should be put to optimal use from the perspective of society.

1.3 Objectives

The objectives of this study were to:

1. obtain data on land-use practices in a land-reform area, and

2. examine the role of local institutions in planning and implementing forestry programs.

2. Agricultural Land Reform and Forestry Development

2.1 Agricultural Land Reform in Thailand

Land reform in Thailand began with the passage of the Agricultural Land Reform Act in 1975. This legislation established the Agricultural Land Reform Office (ALRO) within the Ministry of Agriculture. This law empowered ALRO to acquire land, by transfer or purchase, from larger owners for allocation to farmers actually working the land. The farmer in a land-reform area receives a plot of land, on average 50 rai per household (1 ha = 6.25 rai), for cultivation. However, farmers hold only usufruct rights that can be passed on to their heirs, not full title. If a farmer's family ceases to use the land for cultivation, the land reverts to ALRO for re-allocation. ALRO provides infrastructure and supporting services.

2.2 Forestry Development in a Land Reform Area

ALRO was intended to implement land reform primarily in areas that have been cultivated for a long time and that have a high incidence of land renting or landlessness. However, difficulties in buying land and the growing concern over deforestation by farmer encroachment into forests prompted the government to grant ALRO responsibility for implementing land reform in degraded forest land also. Developing forest land for agricultural and other uses has a long tradition in Thailand, with the establishment of government-sponsored settlement schemes in the 1940s. In such projects, the responsibility for managing the land passed from the Royal Forestry Department (RFD) to another agency. ALRO simply consolidated this practice.

In projects involving conversion of forest land to other uses, one condition of the transfer is that the receiving agency is to preserve 20% of the area as forest. This condition is better known for the breach than for the observance, however. In the case of land reform in degraded forest reserves, there is no formal procedure for establishing such a forest area. Thus, when the study began, the question was, How is the required forestry development viewed by ALRO and how can it take place in the study area?

In the context of the study, several possibilities for forestry development existed.

1. *Farm Forestry*. Farmers might be encouraged to plant trees on the land they receive from ALRO, either for their own use or for sale.

2. *Industrial Plantation*. The land-reform area could be leased *en bloc* to a firm for establishing a forest plantation. Farmers would grow trees under a subcontract with the firm as land leaseholders, plantation workers, or suppliers of tree products.

3. *Community Forest.* A portion of the ALRO area might be designated forest land, so that a forest plantation could be established in some form for use by local communities.

The actual outcome would depend on the specific local conditions, such as alternative land uses, the market for wood and wood products, and availability of financing services.

3. Description of the Research Sites

3.1 Location

The research site is the Agricultural Land Reform Area of Sanamchaikhet District, Chachoengsao Province, pictured in Map 1. The area is part of the Kwae Raborn-Siyat Forest Reserve extending over 256,000 ha. The forest was declared a reserve forest in 1978, while the land-reform area was demarcated and declared in 1977 when the area was degazetted from the forest reserve area. The land-reform area itself comprises about 37,041 ha. Appendix 1 summarizes changes in the status of the forest since 1951.

In the original Land Reform Area Plan, 24,000 ha were to be allocated to farmers for agriculture, while an additional 12,000 ha were earmarked for establishment of community forest (see Map 2). In 1978 the land was used mainly to grow sugar cane and cassava (see Map 3), with only a small area of mixed deciduous forest remaining. The area demarcated for community forest development was devoted totally to sugar cane. In this area, land reform was implemented in stages, as ALRO established its presence and worked to obtain the cooperation of the resident farmers in the initial survey of landholdings and then in the allocation of land (see Table 1).

The soils in the area can be described as generally poor in nutrients, moderately suitable for field crops, pasture development, and tree crops (see Appendix 3).

3.2 Criteria for Village Selection

In view of the study's aim to examine the effect of land reform on forestry development, it was decided to contrast one village where land reform had been completed with one where land reform had not been implemented.

At the time of study, the re-allocation of land in the area was partially completed. Due to lack of cooperation from those who occupied the land, the process of reform did not progress well in the area designated as community forest. A village in this area, Village A, was chosen to represent the "un-reformed" villages.

Table 1. Progress of land reform in Kwae Rabom-Siyat Forest (area in ha).

Year	Negotiation		Survey		Issue of Document*	
	Plan	Actual	Plan	Actual	Plan	Actual
1980	1,280	1,280	960	1,248	0	0
1981	160	1,910.9	960	1,321.9	0	0
1982	4,800	7,043.8	3,200	3,301.4	0	29.3
1983	1,600	1,920	1,600	1928.2	0	129
1984	1,440	1,355	2,400	3,306.4	80	97.6
1985	1,600	2,205.8	3,952	4,093.8	80	49.3
1986	4,000	3,634.6	4,000	4,769	160	96.6
1987	2,400	2,978.9	7,200	7,266.9	160	74.7
Total	17,280	22,329	24,272	27,235.6	480	476.5

* number of rights documents issued.

In contrast, the southwest portion of the land reform area was less densely settled and the population was more cooperative. Land allocation was completed with the issue of land certificate SPK 4-01. One village in the allocated area, Village B, (Ban K.M.7) was selected to represent a reformed village. The two villages are described below.

3.3 Village Descriptions

3.3.1 Village A: Ban Nong Yang

Socioeconomic Structures and Community Characteristics

Village A is located in the northeast of the land reform area, close to the district center to the west. It is a settlement of 650 households comprising just under 4,000 persons. The agricultural area of the village covers about 2,720 ha.

The topography of the area is flat and rolling plain. Agriculture is entirely rainfed. Rice is grown on 1,120 ha, and cassava on 1,280 ha. The rest of the land is used for residences and roads. The village is divided into 15 clusters, located at some distance from each other along the roads (Map 5).

The landholding pattern is not uniform. Although the average holding is 1.6 ha, there are landless households, as well as absentee land owners who live in the town and hire labor to cultivate the land for them. Further complicating the issue of land tenure is the fact that the whole village is located in the area designated as community forest when the land was transferred to ALRO. At the time of writing, ALRO has completed

the cadastral survey of existing land claims, but the land allocation process has not yet been completed. Considerable resistance to land reform was evident in the village at the time of the field research.

Land Use

The land in Village A is used for annual cropping of rice and cassava. At present, trees are only planted in home gardens.

3.3.2 Village B: Ban Ko.Mo.7

Socioeconomic Structures and Community Characteristics

The second study village is Ban Ko.Mo. 7, located in the Lat Krating subdistrict to the southwest of the land reform area. It is a scattered village of 6 clusters (Map 6). Altogether, 278 households occupy an area of about 3,097 ha. Total population is 1,200 persons.

The topography is rolling plain on loamy clay soil. The village is accessible by laterite road.

The village has been well-endowed with government support. There is a small reservoir covering an area of about 21 ha located close to the village center. A rubber research field station was established on 320 ha in 1981. Other government services available in the land-reform area as a whole include school, health station, agricultural extension officers, and cooperative officers.

In the beginning, there was considerable resistance to land reform due to lack of understanding about the procedure. Given the limit on individual holdings, a landholder who wanted to keep a large holding had to find people to occupy the land. Land claims would often be declared in the name of family members, but where this was impractical holders were reluctant to let land reform officials proceed with allocation. The result was that land claims were transferred to family members or sometimes to others, while the original management appears to have been implicitly retained.

Land Use

In Village B, the main land use is cassava cultivation. Other annual crops include sugar cane.

With declines in both yields and prices for cassava, the importance of cassava has declined from 90% of total cultivated area 4-5 years ago to 56% at present. In its place, farmers have turned to tree crops, notably rubber and cashew nuts. Cultivation of both these crops was supported by extension advice. In the case of rubber, the Rubber

Research Station helped farmers with seedlings and technical advice. For cashew nuts, a private company worked with ALRO to engage the farmers in planting contracts.

4. Alternatives for Forestry Development in a Land Reform Area

4.1 Experiences of Forest Resource Development

As shown in Map 3, by 1978 no forest remained in the area allocated for land reform. The original forest was cleared for cultivation of sugar cane and cassava. Only a small area of mixed deciduous forest was identified around Village B. The area around Village A was given over to sugar cane. This section traces the development of forestry activities in the two villages.

4.1.1 Establishment of community forest in Village A

As noted above, the original plan for land reform was to set aside 20% of the total land-reform area as community forest. At the transfer of the land from RFD to ALRO, 8,640 ha including the area around Village A was designated community forest. Prior to the transfer, the RFD Regional Forestry Office had begun to establish a forest plantation, but the attempt encountered resistance from the occupying farmers, and was hampered by budgetary restrictions. At the time of the transfer, only 400 ha were established as forest plantation.

In view of the fact that the area designated was the more populated portion of the land turned over to ALRO, it is not surprising that the attempt at forest plantation was met with strong resistance from resident farmers.

Coordination Problems between RFD and ALRO at the Local Level

In 1986, villagers lodged a complaint with the Provincial Land Reform Office stating that RFD officials had started surveying land amounting to about 312 ha for reforestation. Subsequent investigation revealed that RFD had earmarked a portion of the forest plantation area for allocation by the Tambol Council to farmers, but no action had yet been taken. Furthermore, the Provincial Land Reform Office did not possess papers on the matter. However, inquiry through ALRO revealed that RFD had been establishing a reforestation project on approximately 205 ha during 1978-1980. For 1986, the Prachinburi Regional Forestry Office was implementing a program to establish a center for Private Reforestation Promotion in the previously reforested area to produce seedlings for distribution to the people, temples, schools, and other government agencies, and to demonstrate reforestation to the public.

In late 1986, the Prachinburi Regional Forestry Office informed the Provincial Land Reform Office of its forestry project on the area.

According to official minutes of the provincial land reform committee meeting, "The RFD produced 2 maps. One showed a boundary around the forest plantation, estimated at 20,000 rai. The other was a map of the disputed area [where RFD was continuing its reforestation project], estimated at 2,490 rai."

The incident indicated a lack of communication between the agencies concerned. In particular, the Provincial Land Reform Office, as the agency responsible for the area, was not informed of the other agencies' activities in the area.

Why Community Forest?

The Provincial Land Reform Office recognized that the main aims of a community forest are ecological protection, maintenance of soil moisture, and supplying fuelwood needs of the local population. However, it considered that the cost of moving people out, establishing a forest plantation, and then allowing people to come in to harvest trees for fuelwood would not be a worthwhile investment. The cost of controlling the forest plantation and cutting by villagers would also be high and might lead to conflicts among the villagers.

An Alternative Approach to Forestry Development

Instead, the Provincial Land Reform Office proposed that:

a. The requirement for a community forest should be changed to require a commercial forest.

b. RFD should legalize its reforestation activity in the land-reform area by applying for permission to establish its reforestation center. This would be in line with the process by which ALRO requested permission from RFD to operate in RFD-controlled areas.

c. The idea of a community forest should be replaced with encouragement for private commercial tree planting in the whole 36,800 ha, to obtain the goal of 20% forested area (7,360 ha).

d. On the cancelled community forest land, ALRO would allocate land according to land-reform practice, with the added condition that the occupation permit with the farmers require them to plant trees in addition to their agricultural crops.

The Provincial Land Reform Committee approved these proposals in January 1987. As of now, the land originally designated as community forest will no longer be designated as such. Instead, efforts to encourage tree planting will focus on commercial

forestry activity. The scope of tree planting will be broadened to include not only forest trees but fruit trees and other trees such as rubber.

4.1.2 Tree planting in the reformed area

In contrast to Village A, where there is reluctance to engage in forestry development, farmers in the reformed area in Village B are now taking part in rubber and cashew planting programs. As of 1989, 43 households in Village B were reported to have planted fruit trees, particularly mangoes, covering about 29 ha. This is still a small area in comparison to cassava plantings, which take up 1,157 ha, but it represents a change in terms of farmers taking a long-term view in their land-use decisions.

Cashew Nuts

Cashew nuts have been introduced into the area through a program organized by ALRO in conjunction with a private firm, MBK Cashew Nuts Co. Ltd. The company and the farmer enter into a contract in which the farmer agrees to plant cashew seedlings purchased from the company and sell the entire output back to the company. In turn, the company agrees to provide seedling stock of a specified quality and technical advice on how to grow the trees, and to buy cashews from the farmer at a minimum agreed price. The terms of the contract are summarized in Appendix 4. The program resulted in the planting of about 5 ha of cashew trees in 1989. (For the entire subdistrict, about 10 ha were planted to cashew.)

Complaints were voiced from both sides, however. Farmers complained that planting materials were not those specified in the contract, and that yields were lower. The company claimed that farmers broke the agreement by selling their output to other buyers instead of to the company. Other buyers offered farmers cash payment while the company paid the farmers through the bank, which deducted the amount owed to it for each farmer's loan before turning the remainder over to the farmer.

Rubber Planting

Two hundred hectares were reported to be planted to rubber. Rubber was introduced as a crop by the Rubber Research Station in the area. The ALRO provincial office helped interested farmers to obtain loans from the government agricultural bank. The rubber has not yet been tapped, but yields from the trees planted at the government research station show satisfactory results.

Eucalyptus Planting

The ALRO provincial office introduced Eucalyptus to the farmers at the same time as rubber, but farmers' interest was much lower. According to 1989 statistics, Eucalyptus is planted on about 67 ha. In the land reform area, it is not a popular choice despite the

fact that Chachoengsao is the location of many large-scale Eucalyptus plantations (often planted by non-local landowners) and several major outlets for Eucalyptus timber. One outlet is a wood chip factory that buys Eucalyptus trees for export to Japan and other Asian countries. The other is a factory that buys Eucalyptus trees for mixing with cement to produce wood-cement board construction panels. This firm also exports its products and is enjoying a growing domestic market. Still, farmers in Village B are not enthusiastic about planting Eucalyptus. They feel that the market is less assured than those for fruits like mango, or for rubber, where the government is seen to be supporting the growing of the species, or the contract with the cashew nut company. Thus, it seems that knowledge of a market is not enough to induce farmers to plant trees. The market has to be visible in some institutional form to inspire the farmer's confidence.

4.2 Discussion of Issues

In this section we turn to the analytical questions of trees and communities. The main issues for discussion are:

1. Establishment of the community forest
2. Private tree planting behavior
3. Conditions for tree planting
4. Relevance of multipurpose tree species (MPTS) in the study area

4.2.1 Establishment of community forest

The history of the area designated as community forest is fraught with conflict between the government (RFD) in the role the forest protector and the people as land occupiers. Encroachment into the forest that led to the whole area being under agricultural cultivation shows that RFD has been ineffective in preventing deforestation there. By turning the area over to ALRO, the government correctly acknowledged the fact that it could not maintain the forest using traditional protective measures.

The stipulation of keeping 20% of the area as community forest may be seen as a rearguard action by RFD. While the intention may be clear enough, the rationale and the methods are not.

In acceding to the 20% forest condition, ALRO followed the established bureaucratic procedure. Social and economic realities, however, counteract the intended effect. The main stumbling block is the fact that farm land is the desired resource in the area, and farmers are not willing to part with whatever land they may easily claim. The need for immediate income means that farmers will prefer short-term planting to long-term investment. This is complicated by the uncertainty of tenure before land is allocated.

In this situation, short-term approaches are the only viable options for farmers, since they cannot be certain that they will be able to reap the benefit from any long-term investment.

This argues against farmers planting trees on their own land. But what of the community forest? The difficulty here, apart from the land issue, is that farmers meet their needs for forest products by other means. Purchases of charcoal and other cooking fuels substitute for wood obtained from the forest. The cash economy prevails also for construction materials, which farmers can buy with income from cash crops. Most houses are built with concrete blocks and timber purchased from elsewhere.

The social tradition of the area is also a factor. Because this is a newly settled area, and therefore has not had time to build up a common tradition, communal projects are unlikely to succeed. Instead, villagers look to the government to provide whatever they require. For these reasons, the community forest idea appears to be a top-down approach to development that does not suit local conditions.

4.2.2 Private tree planting

The prospects for private tree planting appear better for commercial purposes, once land tenure has been secured. This does not mean that full ownership needs to be granted, as long as land rights can be maintained within a family.

More importantly, perhaps, land rights can be used for obtaining credit from financial institutions with ALRO support. In contrast with the practice of growing fruit trees in home gardens, which is taking place without any financial support, the cases of rubber and cashew planting show that farmers do need support for these investments. It may be concluded that farmers look at planting these species as a risky investment, and probably unaffordable due to the opportunity cost of capital tied up. To relieve this constraint, some form of credit system appears to be necessary to maintain the farmer's income until the trees are mature enough to yield a return. Alternatively, if some form of agroforestry could give a steady income while the trees are still immature, farmers would be interested in that option.

Table 2 shows the returns for various types of land uses, comparing pure cassava cultivation, cassava and groundnuts, and these annuals in combination with tree crops. The tree crops chosen are: *Eucalyptus camaldulensis*, rubber, and cashew. The analysis is carried out for a period of 25 years. The results show that planting cassava and peanuts provides the highest net present value for the land. For tree crops, however, the combination of Eucalyptus planted with cassava and peanuts provides higher net present values than either rubber or cashew nuts. By itself, Eucalyptus gives the lowest return to the farmer. But with wide spacing and regular harvests every five years followed by coppicing or replanting, Eucalyptus permits annual crops to be planted more frequently

than either rubber or cashew, which have thick crowns that compete with annual crops when the trees are mature.

Table 2. Comparative return to land use: net present value at various years after planting (baht per rai at 1989 prices).

	Year				
Crop(s)	1	5	10	20	25
Cassava	5,013	9,396	9,623	10,596	10,794
Cassava + peanuts	10,926	24,234	31,752	40,062	42,005
Cassava, peanut + rubber	7,923	5,192	6,538	12,048	15,179
Eucalyptus	-1,022	3,533	5,726	7,934	8,459
Cassava, peanut + Eucalyptus					
spacing					
3x2 m	9,210	14,065	19,180	24,328	25,552
4x2 m	9,403	15,589	21,650	27,751	29,202
5x2 m	9,642	18,535	26,426	34,368	36,257
Cashew	-1,070	4,336	9,496	12,992	16,176
Cashew + cassava	4,041	9,446	14,607	18,102	21,287

Source: Working papers for Shell Reforestation Project Study, private communication.

If the analysis is correct, then the question is, Why aren't farmers planting Eucalyptus in combination with their traditional cash crops? The answer is that in the land-reform area, farmers have been exposed to the work of the Rubber Research Station. ALRO's connection with the MBK Cashew Nut Co. may also influence the farmers to plant cashew on their land. In both cases, the market for the product seems assured. Rubber is a well-known crop in the Eastern region, while cashew are planted through a contract in which the company supplies seedlings and guarantees a price for the cashew nuts. By contrast, the price of Eucalyptus wood is left to the market, hence the farmer is uncertain whether he can sell his output, or what price he can get for it. Though strong demand for the timber has led many investors to establish Eucalyptus plantations in the surrounding area, ALRO farmers were not persuaded to plant.

4.2.3 Conditions for tree planting

On the basis of data from Villages A and B, we may conclude that the conditions for tree planting of interest to farmers are:

1. secure land tenure, assuring the planter that he will receive the benefit from the tree he plants.

2. some mechanism to maintain a sufficient income to the farmer until the trees mature.

3. availability of technical, financial, and marketing support.

4.2.4 Multipurpose trees in the study area

Uses of Trees

From the preceding account, it will be seen that MPTS appear to have rather limited roles within the study area. Tree products are obtained from the remnant forest and trees on farms rather than from plantings. Otherwise, tree products are obtained from fruit trees planted around houses. In addition, there is a strong trend to substitute other products for tree products, such as brick and cement in house construction, and electricity and gas in cooking.

As for tree planting decisions, farmers appear to take a two-step approach.

Planting and Tenure

First, the question of whether to plant trees depends on how land is held. Land tenure has a major bearing on land-use decisions. Where tenure is uncertain, as in Village A, farmers grow only short-rotation crops, with cassava and rice being the main crops grown. In contrast, farmers in the reformed area in Village B are now adopting a longer term view and are willing to invest in tree crops such as rubber and cashew nuts, which require a longer period before rendering a return.

Selecting Species

Second, with regard to species preference, there appears to be no explicit preference for MPTS, except for *Eucalyptus camaldulensis*, which is grown by some farmers for sale to the chipping factory in Chachoengsao province. However, compared with farmers outside the ALRO area, the interest of farmers in the study area toward Eucalyptus has been extremely low. The reason for this may be that the farmers in the

land-reform area hold relatively small plots, and therefore cannot afford to lock up much of their land in a relatively slow-maturing crop like Eucalyptus. The attitude toward planting fast-growing trees may also be conditioned to some extent by the commercial practice in the province in which *E. camaldulensis* is grown as a monocrop in large plots.

The Desire for Cash Return for Land Use

Farmers' attitudes are, to a large extent, defined by their desire for cash income. In this regard, the role of MPTS will depend on how they can provide cash income to the grower. At present, only Eucalyptus promises to be an acceptable crop on economic grounds, but there is still considerable doubt concerning its ecological effects. The lack of adverse publicity about rubber and cashew trees, as well as the availability of extension support and services for these species, has meant that farmers are more open to planting them. To propose alternative MPTS as an option in this situation may be inappropriate. But if it can be shown that certain MPTS have the potential to offer benefits equal or greater than those now being derived from the preferred species, then there is little doubt that the farmers will consider that option.

5. The Role of Institutions in Forestry Development

We now turn to the role of institutions in forestry development. While we have looked at the experience of forestry development in a limited area only, this should provide indications of institutions' current and potential involvement in promoting forestry development. The role of the institution, and not its formal characteristics, are the important factors in determining the success of a forestry development effort. The question of institutional roles in our context may be considered in terms of the farmer's rights to benefits and the role of supporting agencies.

5.1. Farmer's Rights

Farmers' rights can be divided into land rights and rights to tree products.

5.1.1 Land rights

Land reform has given farmers a sense of security over their land. Contrast the attitude of the farmers in Village A, without land reform, and Village B, with land reform, and the difference in cropping behavior is clear. In Village B, people are now taking a long-term view of their holding and have started planting trees such as rubber and cashew, which will provide them with income over a long term. By contrast, Village A residents are still involved in short-term cropping of cassava and sugar cane. Secure land rights provide an incentive for increasing the land's productivity.

5.1.2 Tree rights

The issue of tree rights has not been prominent in our discussion, since there is no restriction on the use of the species that the farmers have planted. But this may be the point: that farmers have chosen species that do not involve complex tree rights for planting, such as the reserved species identified by the Forestry Department for which permission has to be granted before the farmer can cut or harvest, even if he planted the tree himself.

At another level, tree rights may be important in the decision between private tree planting and community forestry. In our study, we did not find much support for the designated community forest, which would have instead deprived people in Village A of their landholdings. Furthermore, there was no clear indication of how the community would benefit from the community forest. Hence the virtual opposition to the idea of community forest when compared with farm forestry, which was shown to be acceptable in the study villages.

5.2 Support

5.2.1 Support at the community level

This case study has focussed on the possibility of maintaining a community forest in a land-reform area. On the basis of the data from the two villages studied, the conclusion must be that successful community forests require conditions that are difficult to satisfy. The difficulty lies in the structural situation, rather than in the lack of commitment on the part of the institutions concerned.

Within this overall assessment, we consider that government institutions play a very important role. In particular, ALRO is attempting to create communities out of spontaneous settlements. The creation of a sense of community, and the evolution of local institutions to manage community affairs, normally takes place over decades and centuries. Realizing this, it is useful to have ALRO play the caretaker role and make the interest of the community members a top priority. In particular, by changing the status of the land from community forest to land for reform, it is responding to local conditions and felt needs. ALRO's use of persuasion to encourage people to plant trees is also to be commended, since it assists farmers to make the decision to benefit themselves in a way that also benefits the rest of society in the long term.

In this situation, the requirement for 20% of the land to be forested should be reconsidered. The rule is not locality-specific. It does not take into account the most appropriate land-use alternatives given the resources available and needs felt by the local population. For this reason, it is inappropriate.

Furthermore, the way that RFD determined the boundaries for the community forest portion of the land-reform area presented problems. It deprived ALRO of the opportunity to determine the best land-use option for the area under its control, and denied the resident population participation in the decision.

5.2.2 Support at the individual level

The most important support provided by an individual level is that of the local land-reform officer, who is responsible for the land-reform area and who works most closely with the farmers. It must be acknowledged that ALRO's tasks are formidable. It is not easy to persuade people to release land they lay claim to, even when their claims, like those of forest encroachers, have no legal basis. In view of this, the success of Village B is proof that ALRO has been very effective in dealing with the people at this level.

The proposal to emphasize private tree farming shows that ALRO is sensitive to environmental concerns as well as to questions of equity and economics. In introducing farmers to major tree-product businesses, it is helping to broaden farmers' options while at the same time helping to ensure that the farmers are not taken advantage of by those businesses. In this respect, ALRO should be given full credit for its role in transforming farmers from annual cash croppers to long-term planners. The only reservation is that such effort requires continuing support, and extension services are expensive. ALRO's role must be assessed in the context of the long-term relationship between the farmer and the large agribusiness, and in view of its own long-term role. By holding the land itself, it has become a major landowner. The land it owns is the nation's land, held in trust to be put to the best use so that the country may benefit from its land resources. In this sense, it may have to define its future role with farmers to determine the best possible land use. Otherwise, the government's investment in land reform would be uneconomical.

6. Conclusions

The conditions for tree planting by farmers noted in Section 4.2.3 may be restated. In order to promote forestry development, agencies must ensure that farmers have:

1. secure land tenure, so that the planter can be assured of the receiving the benefit from the trees he plants.

2. some mechanism to maintain a sufficient income until the trees mature.

3. technical, financial, and marketing support.

7. Recommendations

7.1 Management of the Land Reform Area

The following recommendations suggest management options for the land-reform area that promote forestry development.

7.1.1 Modification of the forest area requirement

It is recommended that the 20% forest area rule be modified to state that ALRO will aim to have the area forested to the maximum suitable extent, considering the needs of the local population and ecological conditions.

7.1.2 Careful selection of areas for forestry development

As we have seen, allocating a portion of a land-reform area for forestry development without considering the social and economic conditions, particularly of the land thus allocated, is not an effective way for promoting forestry development. We recommend an end to the practice of determining specific areas for this purpose before transferring land ownership responsibility to ALRO.

7.1.3 Planning suited to local conditions

ALRO should be responsible for preparing an area plan in which the desired forest area will be established, not necessarily in one contiguous plot, but in a design to suit the local ecological and socioeconomic conditions of the area. In this matter, RFD could provide technical advice on forestry practices that are feasible. For example, RFD could provide appropriate designs for agroforestry systems that could be adopted by farmers in the area.

7.2 Participation of Beneficiaries

7.2.1 The need for participation

As the case of Village B suggests, the role of the people themselves should be strengthened. Rather than be allowed to become passive opponents to change, the people should be assisted in making decisions that will benefit themselves and society.

7.2.2 Reciprocal commitment

In return for the assistance and support that they receive from government agencies, farmers should be willing to put the interests of society above their own. This

could take the form of adopting sustainable land uses that bring maximum long-term benefit to themselves and to society.

7.3 Support and Extension Services

7.3.1 Need for support

With regard to support and extension services, ALRO's role in the reformed area has proven crucial in coordinating services already provided to villagers by other government agencies, such as the Rubber Research Center and the Agricultural Extension Department, and by the private sector. In particular, ALRO's arrangement with the private sector as an informal guarantor on the part of farmers, as in the case of cashew growers, assured the private investor that the farmers would honor their contracts. This appears to have been enough to start the project to plant casnew trees in Village B. The company can provide further support in the form of seeds, seedlings, technical advice, and marketing channels.

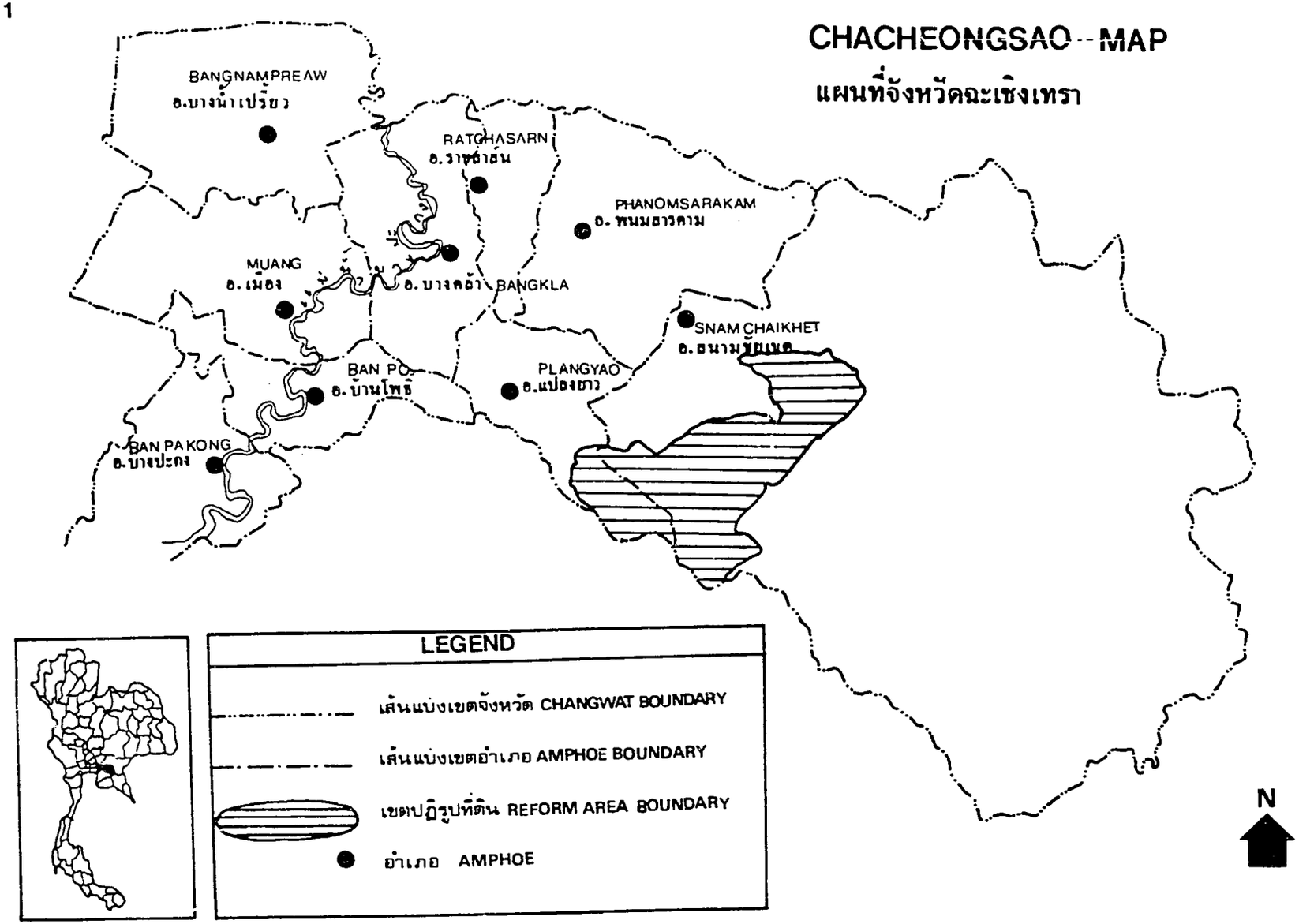
7.3.2 Role of private sector

Without the involvement of a large-scale private investor, however, it is doubtful, whether these supports could be provided. In that case, the farmer would bear the entire risk of planting and marketing the tree products, since ALRO does not have the mandate to undertake these activities.

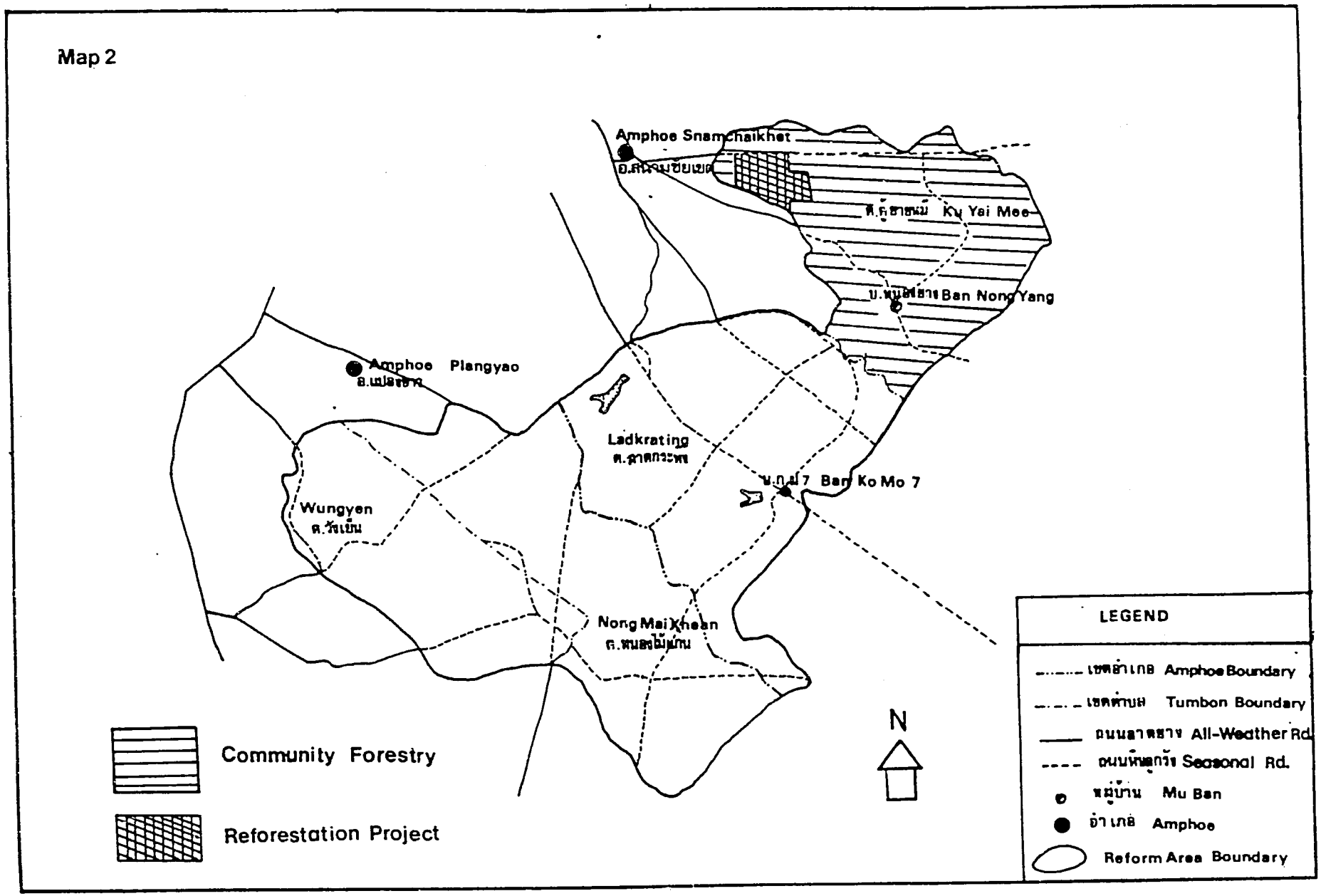
7.3.3 Building local management capability

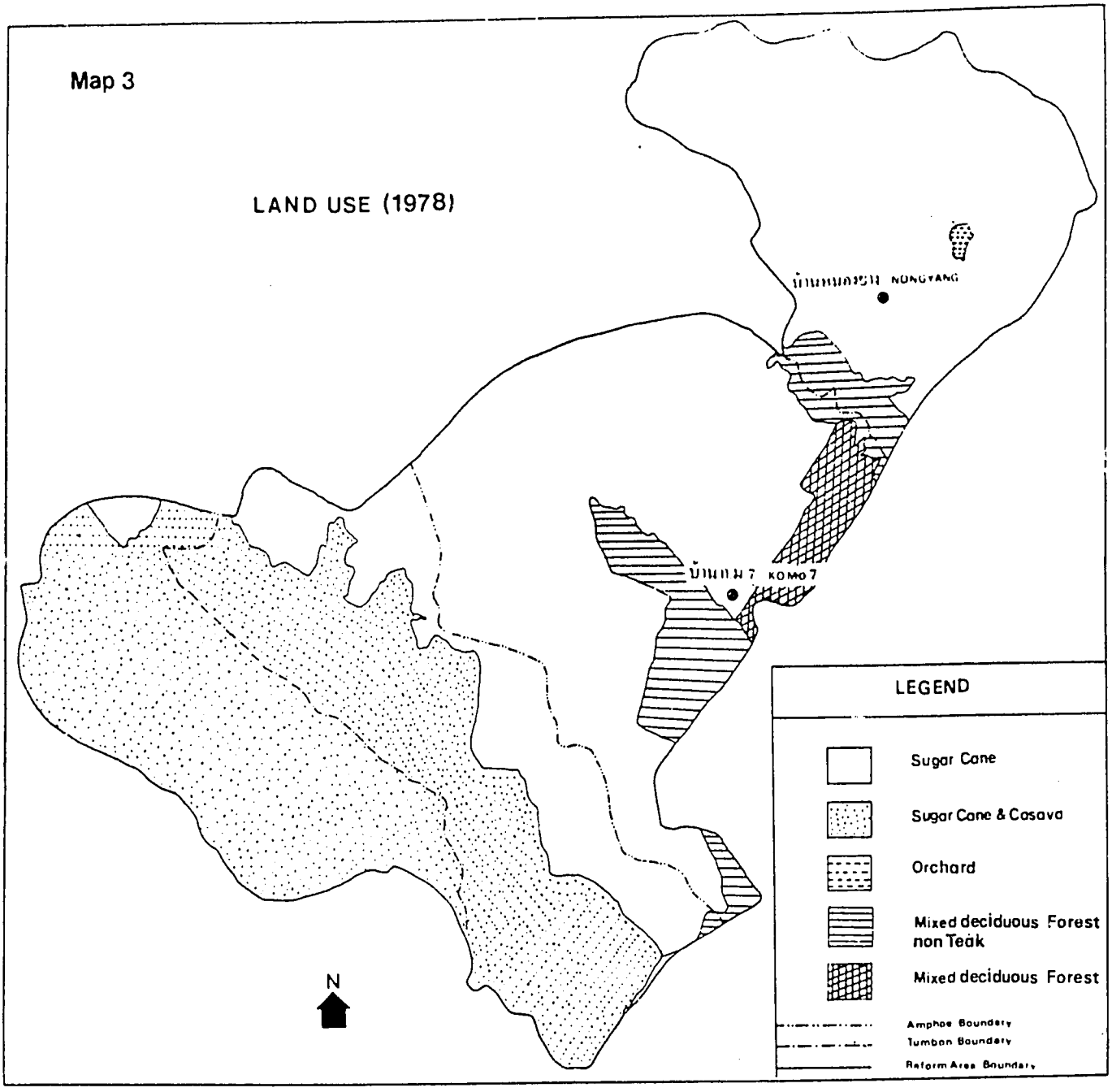
Where contract farming is not possible, the best option would be for ALRO to assist farmers in forming a group and support it with technical and managerial advice, with a self-sustaining business enterprise being the long-term goal.

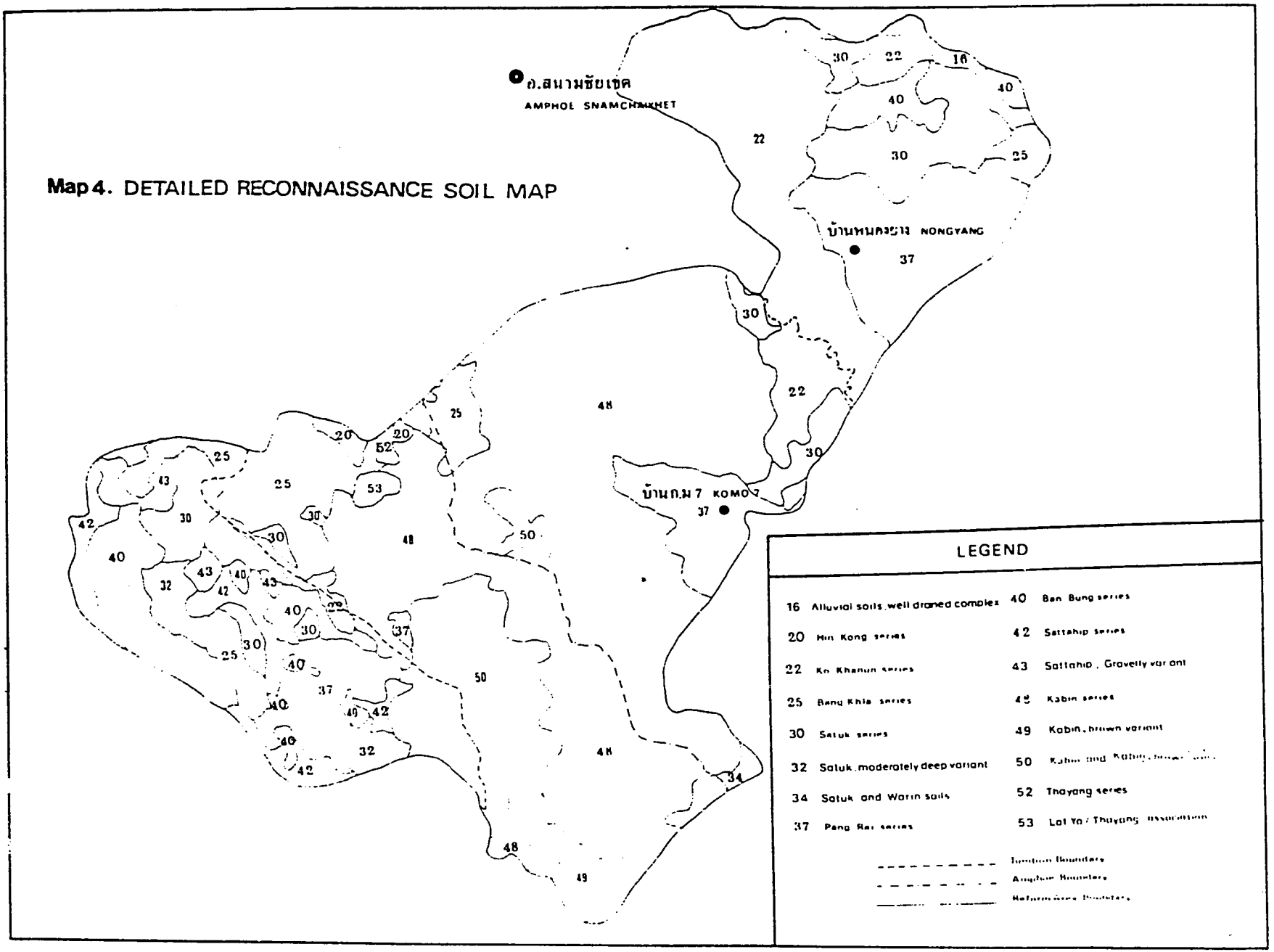
Map 1


CHACHEONGSAO - MAP
แผนที่จังหวัดฉะเชิงเทรา
BANGNAMPREAW
อ.บางน้ำเปรี้ยว
RATCHASARN
อ.ราชสาธร
PHANOMSARAKAM
อ.พนมสารคาม
MUANG
อ.เมือง
อ.บางคล้า
BANGKLA
SNAM CHAIKHET
อ.สนามชัยเขต
BAN PO
อ.บ้านโพธิ์
PLANGYAO
อ.แปลงยาว
BAN PAKONG
อ.บางปะกง
LEGEND
เส้นแบ่งเขตจังหวัด CHANGWAT BOUNDARY
เส้นแบ่งเขตอำเภอ AMPHOE BOUNDARY
เขตปฏิรูปที่ดิน REFORM AREA BOUNDARY
อำเภอ AMPHOE
N

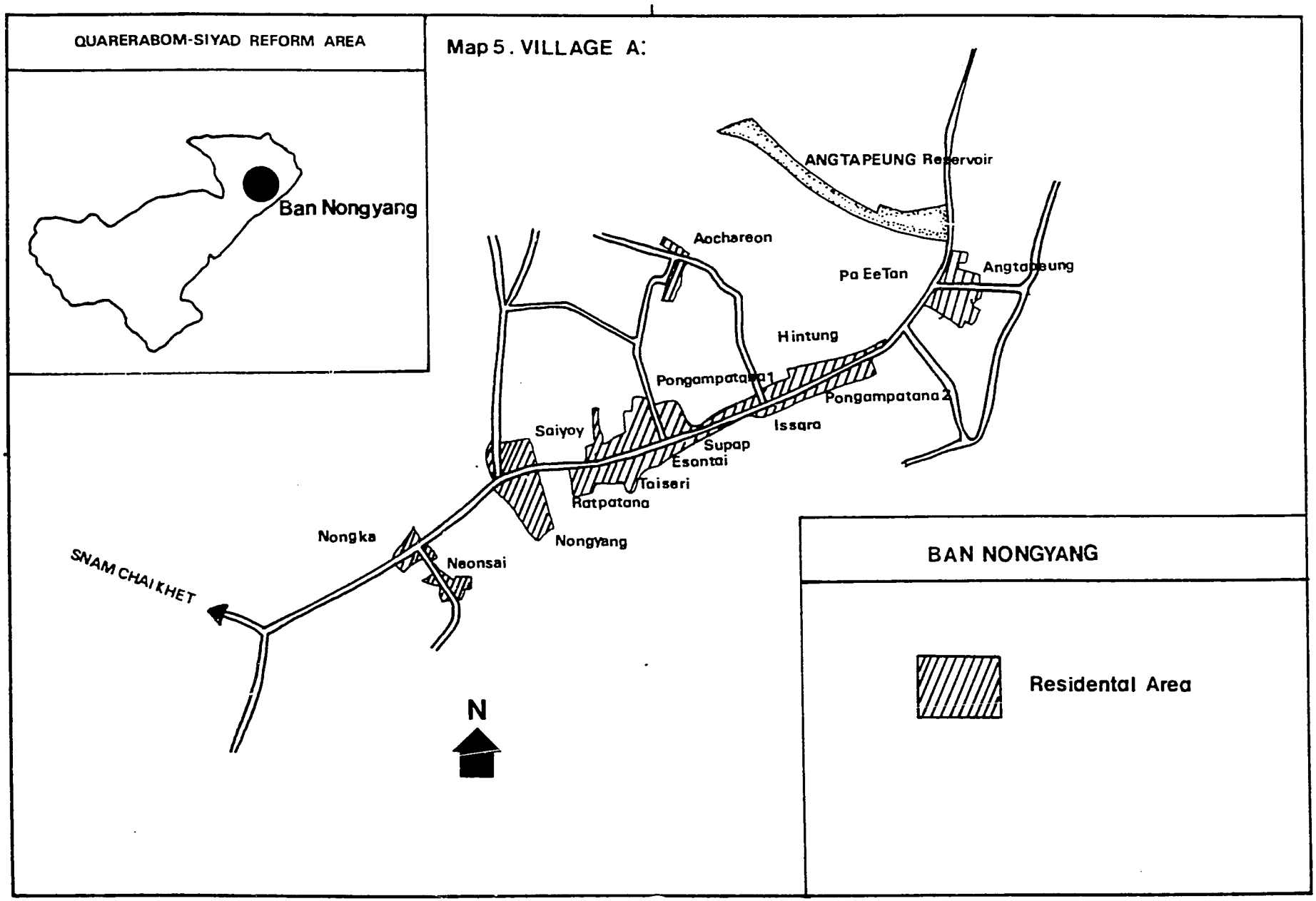
Map 2


Amphoe Snamchaikhet
Ku Yai Mee
Ban Nong Yang
Amphoe Plangyao
Ladkrating
Ban Ko Mo 7
Wungyen
Nong Mai Khean
Community Forestry
Reforestation Project
N
LEGEND
Amphoe Boundary
Tumbon Boundary
All-Weather Rd.
Seasonal Rd.
Mu Ban
Amphoe
Reform Area Boundary

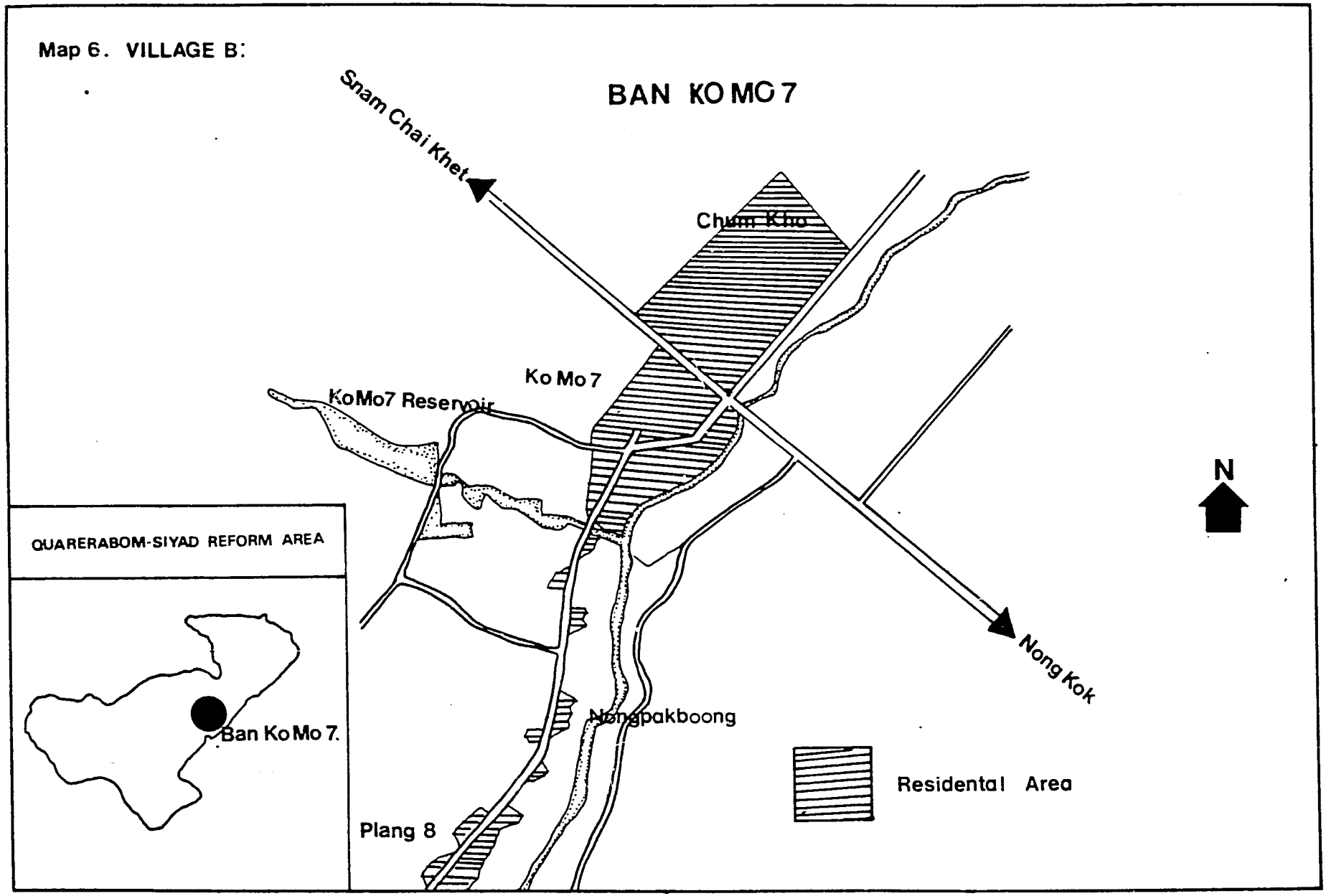

Map 3
LAND USE (1978)
NONGYANG
KOMO 7
N
LEGEND
Sugar Cane
Sugar Cane & Casava
Orchard
Mixed deciduous Forest non Teak
Mixed deciduous Forest
Amphoe Boundary
Tumbon Boundary
Reform Area Boundary



Map 4. DETAILED RECONNAISSANCE SOIL MAP


QUARERABOM-SIYAD REFORM AREA
Ban Nongyang
Map 5. VILLAGE A:
ANGTAPEUNG Reservoir
Aochareon
Pa EeTan
Angtapeung
Hintung
Pongampatana 1
Pongampatana 2
Issara
Saiyoy
Supap
Esantai
Taiseri
Ratpatana
Nongyang
Nongka
Neonsai
SNAM CHAI KHET
N
BAN NONGYANG
Residental Area

Map 6. VILLAGE B:



Appendix 1

Chronology of Events in Kwae Rabom-Siyat Reserve Forest

1951	The area of the Kwae Rabom-Siyat Forest was declared a permanent forest by a cabinet resolution dated 14 November.
1975	The cabinet resolved to transfer the encroached area from the Royal Forest Department to the Agricultural Land Reform Office (ALRO).
1976	ALRO was authorized to implement land reform in the encroached area of the Kwae Rabom-Siyat-forest, covering an area of 150,000 rai (24,000 ha), under the forest reserve act, article 16, to allow temporary use of the reserve forest (dated 22 November).
1977	The encroached area in the forest was declared a land-reform area by announcement in the royal gazette, dated 25 March and 16 May.
	The Cabinet resolved to withdraw the national reserve status of the area allocated to the land reform, 2 August.
1977-1979	ALRO began land-reform procedures. Surveys, started with cooperation from the Land Development Department, encountered strong resistance from the land occupants.
1978-1979	The Rubber Research Center, Ministry of Agriculture, requested permission to establish a field station in the ALRO area. Permission was granted in 1980.
1978	The remaining forest was declared a national reserve forest in accordance with the Ministerial order, No. 409, dated 15 February.
1982	The Ministry of Agriculture removed the forest reserve status from the area allocated to ALRO, covering 236,018.75 rai, or 37,763 ha (dated 14 October).
1986	Residents of the portion of the ALRO area allocated for community forest submitted a petition protesting reforestation in the land they occupied. Investigation revealed that RFD was replanting trees on land formerly used as forest plantation, which was being used as a center to promote private reforestation now that the land was under ALRO's responsibility.

1987 The Provincial Land Reform Committee approved the ALRO proposal to:

1) legalize the establishment of the reforestation center, with ALRO approval

2) annul the decision to establish the community forest, and replace it with the promotion of economic reforestation with any tree species for an area not less than 20% of the total land-reform area

3) proceed with re-allocation of the annulled community forest area to farmers in the land reform program, with the condition that they plant trees

1989 The Provincial Land Reform Committee approved the ALRO proposal to allow farmers to apply for occupation and utilization of land in the former community forest area under the land-reform project.

Appendix 2

Summary Data on the Study Villages

Village A

Village name: Ban Nong Yang

Population Male: 1,906
Female: 1,978
Total: 3,884

No. of Households: 650

Area of Village (ha): 2660.8

Land Use Pattern (ha) Land under forest: none

Agriculture: 2,436

Irrigated land: none

Culturable Wasteland: 0.8

Land not available for cultivation: none

Pasture land: none

Crops grown (ha) Main crop: paddy rice, 1158.4

Other crops: cassava, 1277.3

Homestead: 224

Soil Type: Sandy loam, clay, lateritic

Topography: flat

Annual rainfall: 755 mm.

Distribution of rainfall: May-October

Temperature (°C): Maximum: 29.8 Minimum: 25.66

Village B

Village name: Ban Kor Mor 7

Population Male: 641
Female 559
Total: 1,200

No. of Households: 278

Area of Village (ha): 3097.12

Land Use Pattern (ha) Land under forest: none

Agriculture: 2,887.5

Irrigated land: none

Culturable Wasteland: none

Land not available for cultivation: 20.8 (site for reservoir)

Pasture land: none

Crops grown (ha) Main crop (cassava): 1,753.6

Other crops: rubber plantation, 1,027.2

Mixed farming (rubber and pineapple, cotton, cassava): 95.5

Homestead: 43.2

Soil Type: Sandy loam, clay, lateritic

Topography: flat

Annual Rainfall: 755 mm.

Distribution of rainfall: May-October

Temperature (°C): Maximum: 29.8 Minimum: 25.66

Appendix 3

Soils in the Kwae Rabom-Siyat Land Reform Area

Series No., Name, Characteristics and Suitability*

16 Alluvial soils, well drained complex, AC-wd, P-Vt, N-IIIs, F-IIn, L-I, R-I, C-I.

20 Hin Kong, Hk; Family: fine, silty, mixed , low humic gley soils: P-II, N-Vf, F-Vf, L-IIf, R-IIIf, C-IIIf.

22 Ko Khanun, Kkn; Family: fine, loamy, mixed, low humic gley soils to hydromorphic grey podzolic. P-IIIw,N-IIId,F-IIId, L--I, R-I, C-I.

25 Bang Khla, Bka; Family: loamy skeletal, mixed, red yellow podzolic soils. P-Vt, N-IVg, F-IVg, L-I, R-I, C--IIg.

30 Satuk,Suk; Family: fine loamy, siliceous, red yellow podzolic soils. P-Vt, N-IIIs, F-IIn, L-I, R-I, C-I.

32 Satuk, moderately deep variant, Suk-md; family: as in No.30. P-Vt, N-IIIs, F-IIIg, L-I, R-I, C-I.

37 Pang Rai, Pg; family: clayey skeletal, kaolinitic red yellow podzolic soils: P-Vt, N-IVg, F-IVg, L-I, R-I, C-IIg.

40 Ban Bung, Bbg; Regosols. P-Vt, N-IVs, F-IVs, L-I, R-IIs, C-I.

42 Sattahip, Sh; Regosols. P-Vt, N-IVs, F-IVs, L-I, R-IIs, C-I.

43 Sattahip, gravelly variant, Sh-gr; Regosols. P-Vt, N-IVs, F-IVs, L-I, R-IIs, C-I.

48 Kabin Buri, Kb; Family: clayey skeletal, mixed reddish brown lateritic soils. P-Vt, N-IVg, F-IVg, L-I, R-I, C-IIg.

49 Kabin Buri, brown variant, Kb-br; Family: as in No. 48. P-Vt, N-IVg, F-IVg, L-I, R-I, C-I.

50 Kabin Buri and Kabin Buri, brown soils, Kb & Kb-br; Family: as in No. 48. P-Vt, N-IVg, F-IVg, L-I, R-I, C-IIg.

52 Tha Yang,Ty; Family: clayey skeletal kaolinitic red yellow podzolic soils. P-Vt, N-IVc, F-Vc, L-I, R-IIIc, C-IIIc.

53 Lat Ya/Tha Yang association, Ly/Ty; as in No. 52. P-Vt, N-IIIs/I, F-IIIg/Vc, L-I, R-I/IIIc, C-I/IIIc.

Code: P = rice, N = upland crops, F = fruit crops, L = pasture, R = rubber, C = coconut.
Source: Soil Survey of Chachoengsao Province, Land Development Department, No. 344, ISBN 974-7616-94-7. 1986.

*Suitability for each crop is indicated using a scale of Roman numerals I to V. Higher numbers indicate poor crop suitability for that soil.

Contractual Terms for Planting Cashew Nuts

Between Farmers and MBK Cashew Nut Co.

1. MBK agrees to sell the seedlings of a guaranteed stock of cashew to the farmer at a fixed price. Payment for the seedlings is made through the bank of Agriculture and Cooperatives.

2. MBK agrees to buy the whole crop of cashew nuts from farmers participating in the program for a period of 10 years at a price to be determined by the project management committee, but not less than 12 baht per kg ex factory.

3. The cashew to be sold by the farmer is guaranteed to be from the tree planted in the project, at a fixed standard size of 180 nuts per kg. Transportation cost will be born by the seller (farmer).

4. Payment for the nuts will be made through the BAAC.

References

Agricultural Land Reform Office, Chachoengsao Province. 1988. Annual Report.

Chosiwasakul, Surachit. 1990. The history of the management of the state land (Kwaerabom Siyat Forest) in Sanamchaikhet and Plangyow districts, Chachoengsao privince. Provincial Land Reform Office, Chachoengsao Province. Mimeo.

Land Development Department. 1986. Land Classification of Chachoengsao Province.

MBK Cashew Nut Co., Ltd. No date. Contract to buy and sell cashew trees.

_____. No date. Contract to buy and sell cashew nuts.

_____. No date. Cost and returns for growing cashew nuts.

Namekhuntod, Thongchai. No date. Growing Cashew Nut Trees. Community Agriculture Project.

Pratumkeaw, Kitti. 1989. Report on The Encroachment of Forest Reserves, A Case Study of Kwae Rabom Siyat Forest, Sanamchaikhet District, Chachoengsao Province.Provincial Subcommittee on Protection and Prevention of Illegal Destruction of Forest Resources.

Provincial Land Reform Committee, Chachoengsao Province. Minutes of meetings, 1/1987, held January 26, 1987, to confirm the approach to manage the land designated for community forest in the land reform area.

_____. Minutes of meeting 2/1989, held April 11, 1989, to approve implementation of land reform procedures in the area designated for community forest in the land reform area.