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PEOPLE AND PROTECTED AREAS: IMPACT AND RESISTANCE AMONG THE PGAK’NYAU (KAREN) IN THAILAND

by

Chumpol Maniratanavongsiri

A thesis submitted in conformity with the requirements for the degree of Doctor of Philosophy
Graduate Department of Education
University of Toronto

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ABSTRACT

The society and identity of Pgak’nyau (Karen) people in Thailand is integrally tied to their practice of agriculture in forest environments. This thesis examines the resource management system practised by the Pgak’nyau and how government conservation policies have affected traditional ways of life. Changes in a strictly regulated national park are compared to those in a village located in a national forest reserve, where more flexibility is allowed in the use of natural resources.

The traditional way of life for the Pgak’nyau people began to undergo major change in the 1960s when the Thai government passed new forest and wildlife legislation, which expanded protected areas into Pgak’nyau lands. The creation of strictly regulated national parks severely affected traditional ways of life and created undue hardship in Pgak’nyau communities. A ban on swidden agriculture in national parks reduced the already marginal size of family farmland and park authorities have blocked most development assistance to villages located within park territory. The
effect has been to relegate Pgak’nyau villages in national parks to a lower standard of living in comparison to villages located outside park boundaries.

In contrast, Pgak’nyau villages located in national forest reserves have had a better quality of life because of greater flexibility permitted in local use and control of natural resources. Moreover, the government has provided development programmes to these Pgak’nyau villages that have helped people cope with legislative change. People have stopped practising swidden agriculture, but continue to cultivate wet rice for subsistence and have adopted the cultivation of cash crops which were introduced with government assistance.

Government conservation efforts have effected change in Pgak’nyau villages, though these changes may have been unintended. Villages located in forest reserves have shown no less concern in conservation efforts. Traditions based on community management of forest resources have been maintained so that environmentally sustainable agriculture is practised even without the regulatory restrictions of national parks. Many villages have responded to park pressures by forming conservation networks to lobby various levels of government. These new organisations work to develop common conservation practices among highland villages, while giving Pgak’nyau villagers a hitherto unheard political voice.
ACKNOWLEDGEMENT

I would like to express my appreciation to the following people who have assisted me in this thesis.

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GLOSSARY OF TERMS

aû qai  Ancestral spirit cult
dei mû be  Moist forest
doo lâ  Forest fallow ready for cultivation
hî hkô  Village leader
hpà si  Unit of measure (1 acre = 2.2 hpà si)
hsgi  Forest fallow
hsgi aû mei  First year fallow
hsgi wa  Second year fallow
hsgi yaû plô  Third year fallow
hsî  Irrigated field
htâ  Unit of measure (1 htâ = 20 litres)
kaû k’ca  Lord of the land
ki cu  Wrist tying ceremony
klaû nau  Weeding
k’ne  Jungle
k’ne mú  Female jungle
k’ne hpa  Male jungle
lâ hte  Tree in dipterocarpus species
lû pâ  Tree ordaining ceremony
madaû makâ  The reciprocal exchange of labour between villagers
mau poo  Salt licks
naû oo roô  Head of springs
pa hlaow  Forest fallow
pga mi pga pâ  Elderly
pga  Forest
Pgâ dei pau  Umbilical cord forest
qû  Swidden field
rai  Unit of measure (1 acre = 2.2 rai)
sâ pga  Official village leader
t’kâ  Rice seedling
tâ soô laû  Permanent garden
tâdei dô  Mountain pass
ABBREVIATIONS

ARD       Accelerated Rural Development Office
BPP       Border Patrol Police
CCF       Christian Children Fund
CDSAC     Chiang Mai Diocesan Social Action Centre
CPT       Communist Party of Thailand
HCG       Highland Conservation Group
IKS       Indigenous Knowledge System
IUCN      International Union of the Conservation for Nature
KNU       Karen National Union
LDD       Land Development Department
LRO       Land Reform Office
MAB       Man and Biosphere Programme
MKWN      Mae Khan Watershed Network
MOAC      Ministry of Agriculture and Co-operatives
MWWN      Mae Wang Watershed Network
NFDN      Northern Farmers’ Development Network
NFR       National Forest Reserve
NGO       Non-governmental Organisation
NHTWC     National Hill Tribes Welfare Committee
NPD       National Park Division
NS3       Nor Sor 3 (Land Ownership Document)
OFR       Old Forest Reserve
ONP       Old National Park
PBT       Por Bor Thor (Local Land Tax)
PVC       Plastic V cable
PWD       Department of Public Welfare
RFD       Royal Forest Department
STK       Sit Thi Tham Kin (rights to cultivate)
SPK4-01   Sor Por Kor (land reform document)
UNESCO    United Nation Educational, Scientific, and Cultural Organisation
USFPP     Upland Social Forestry Pilot Project
WCD       Wildlife Conservation Division
WHO       World Health Organisation
NOTE ON ROMANIZATION

The Pgak’nyau language has two different writing systems: the Burmese version and Roman version. The Burmese version was developed in 1843 by Jonathan Wade, a Baptist missionary, while the Roman version was developed in 1954 by Rev. Fr. Joseph Sequinotte, a Roman Catholic priest (Smalley 1976:4-5). This thesis uses the Roman version as described in Y’Lix Hkauj Htiv by Fr. Joseph Sequinote.

Consonants

k - like French in [k]
hk - like English in [k]
g - fricative [r]
q - as in German [ch]
ng - like English in [ng] as in singing
ny - like English [nj] as in new
c - like English in [j]
hs - like English in [ch]
t - like French in [t]
ht - like English in [t]
d - as in English [d]
n - as in English [n]
b - as in English [b]
p - like French in [p]
hp - like English in [p]
m - as in English [m]
y - like English in [z] or [y]
r - as in English [r]
l - as in English [l]
w - like English in [w]
s - as in English [s]
h - as in English [h]

Vowels

a - like [a] in are
e - like [e] in father
i - like [ee] in feet
o - like [o] in metro
u - between [i] and [u]
ai - like [a] in man
au - like [a] in law
ei - like [e] in men
oo - like [oo] in moon

**Tone Markers**

There are two types of tone markers: hand-written and typed. In hand-written script, tone markers are indicated above the vowel. However in typeset script, tone markers are indicated after the suffix following the vowel.

<table>
<thead>
<tr>
<th>Hand-written</th>
<th>Typeset</th>
<th>Tone</th>
</tr>
</thead>
<tbody>
<tr>
<td>(unmarked)</td>
<td>(unmarked)</td>
<td>- mid-high</td>
</tr>
<tr>
<td>[^]</td>
<td>[v]</td>
<td>- high</td>
</tr>
<tr>
<td>[']</td>
<td>[j]</td>
<td>- low</td>
</tr>
<tr>
<td>[^]</td>
<td>[x]</td>
<td>- mid</td>
</tr>
<tr>
<td>[']</td>
<td>[f]</td>
<td>- low mid</td>
</tr>
<tr>
<td>[-]</td>
<td>[z]</td>
<td>- mid-low: rise</td>
</tr>
</tbody>
</table>
CHAPTER I
INTRODUCTION

Background of the Study

The origin of this study emerged from my own experiences as a member of the Pgak’nyau people. The Pgak’nyau are a group of people who reside in both Myanmar (Burma) and Thailand. English-speaking people refer to the Pgak’nyau as “Karen”; Thais, generally, know us as “Kariang”, whereas the northern Thai refer to us as “Yang”; and the Burmese call us “Kayin”. The population of the Pgak’nyau is approximately 400,000 in Thailand and 7 million in Myanmar.

For centuries, the Pgak’nyau lived in relative isolation from Thai society and we were able to preserve our cultural uniqueness. We enjoyed living a traditional way of life with little interference from government. However, with developments in transportation and communication, it has now become difficult for the Pgak’nyau to continue distancing ourselves from the majority society. This study does not claim that Pgak’nyau societies in the past were completely isolated from Thai society. Indeed, there have always been inter-relations between the Pgak’nyau and Thai lowlanders. However, interactions with the central government were minimal due to a past policy of non-interference with
As a child, I rarely saw Thai people, except for merchants who came to my village to buy cattle or pigs. People in my village also rarely visited Thai towns because roads and transportation were limited. People in my village would travel to the local district administration office, for example, to register a new-born child or to obtain a citizenship identification card. On other occasions, we might go to Thai towns when we wanted to sell forest products or buy salt and farming equipment.

Prior to the 1950s, the Thai government paid little attention to the Pgak'nyau. Government indifference allowed us to live in traditional ways. Specifically, without government interference the Pgak'nyau people had freedom to manage and use natural resources. Because the Pgak'nyau people are forest dwellers, our lives have been heavily reliant on the natural resources surrounding our communities, and forests have shaped our identity.

When I was a young child, my village was isolated and removed from what we called "development". There was no road, electricity, running water or telephones in my village. There was also no school in my village and I am of the first generation to have had opportunity to obtain formal

---

1 Highlander is an informal term used to refer to members of distinct ethnic groups living in mountainous areas of northern Thailand. The official designation used by the Thai government is "Chao Khao" or "Hill Tribe".
education. In the past, my village, like most Pgak'nyau villages in northern Thailand, produced almost everything for our own consumption. For example, we grew rice, corn, chillies, and vegetables for our food and grew cotton to make our clothes. We raised chicken and pigs for religious purposes, as well as for household consumption. Cows and water buffaloes were raised to plough our land and to sell as the main source of cash income. Some Pgak'nyau also kept elephants to use in logging. When Pgak'nyau people were sick, we gathered medicinal herbs from surrounding forests. Since we could produce almost everything we needed for our consumption, we rarely needed things from outside. The only things necessary to buy from Thai towns were salt and metal for agricultural equipment. We had a self-sufficient, subsistence economy. This subsistence economy was managed through a commonly held, moral code of behaviour governing the use of natural resources. Village elders managed and controlled access to natural resources for community members. There rarely were disputes as resources were plentiful.

Prior to the 1950s, little change occurred in Pgak'nyau communities. However, “traditional” ways of life began to undergo major change when the Thai government changed its policies towards highlanders in the 1950’s. In 1951, the Thai government set up a Committee for the Welfare of People in Remote Areas (Bhruksasri 1989:12). This in turn resulted in
increased government interest in highland people. In 1959, the government established a National Hill Tribe Welfare Committee (NHTWC) to initiate projects for the development and welfare of hill-dwelling minorities in the North (Bhrusasri 1989). The projects were designed to meet four goals, goals that were later formalised by the Director-General of the Department of Public Welfare (PWD), who held responsibility for implementing the projects. The four goals were:

1. To prevent the destruction of forest and sources of natural streams by encouraging stabilised agriculture to replace the destructive shifting cultivation practised by the hill tribes,
2. To end poppy growing, by promoting other means of livelihood,
3. To develop economic and social conditions of hill tribes so that they may contribute to national development, by promoting community development among the hill tribes grouped in settlements,
4. To induce the hill tribes to accept the important role of helping to maintain the security of national frontiers, by instilling in them a sense of belonging and national loyalty (Ruenyote 1969).

As Ruenyote states above, the Thai government showed interest in highland people because of concerns over national security, deforestation and narcotics. The government employed the same policy towards all highlanders, despite the fact that there were at least ten different groups of highland people, each having their own distinct culture and ways of life.
Most highland people, approximately 70 percent, live in northern Thailand (see Figure 1). Of the highlanders, the Pgak'nyau comprise the largest group, with a population of approximately 50 per cent of the total highland population. The majority of this Pgak'nyau population reside in the northern and western regions of the country (see Figure 2). The Hmong are the second largest highland group with a population of approximately 16 per cent of the total. The smallest highland ethnic group is the Mlabri, who have a population of less than two hundred people (see Table 1.1).

Table 1.1
Highlanders Population in Thailand

<table>
<thead>
<tr>
<th>Ethnic Group</th>
<th>Population</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pgak'nyau (Karen)</td>
<td>402,095</td>
<td>50.87</td>
</tr>
<tr>
<td>Hmong</td>
<td>126,147</td>
<td>15.96</td>
</tr>
<tr>
<td>Lahu</td>
<td>78,842</td>
<td>9.98</td>
</tr>
<tr>
<td>Akha</td>
<td>48,468</td>
<td>6.13</td>
</tr>
<tr>
<td>Mien</td>
<td>47,305</td>
<td>5.96</td>
</tr>
<tr>
<td>Htin</td>
<td>32,755</td>
<td>4.14</td>
</tr>
<tr>
<td>Lisu</td>
<td>31,536</td>
<td>3.99</td>
</tr>
<tr>
<td>Lua</td>
<td>15,711</td>
<td>1.99</td>
</tr>
<tr>
<td>Khamu</td>
<td>10,153</td>
<td>1.28</td>
</tr>
<tr>
<td>Mlabri</td>
<td>173</td>
<td>0.02</td>
</tr>
<tr>
<td>Total</td>
<td>790,369</td>
<td>100.00</td>
</tr>
</tbody>
</table>

Figure 1

Distribution of Highlander Villages in Thailand (Excluding Pgak'nyau villages)

Source: Adapted from "Hand Book for Training and Working with Hill Tribes" 1995:139.
Figure 2

Distribution of Pgak’nyau Villages in Thailand

Source: Adapted from "Hand Book for Training and Working with Hill Tribes" 1995:139.
Since the establishment of the National Hill Tribe Welfare Committee, the Pgak’nyau people, as well as other highlanders, have experienced major change in their communities. Various government and non-government development agencies have come into their communities. Some of the main highland development agencies include:

1. The Thai-Norwegian Church Aid Development Project
2. The Thai-German Highland Development Project
3. The Royal Project
4. The Doi Pa Per Highland Development Project
5. The Highland Agricultural Social Development Project
6. The Mae Chaem Development Project
7. The Sam Mun Highland Development Project

Besides these highland development projects, there are also many government departments that deal with highland people. These include the Department of Public Welfare, the Border Patrol Police, the Third Army, the Office of Accelerated Rural Development, the Agricultural Extension Department, the Land Development Department, etc.

Despite four decades of highland development programmes since the 1960s, local people have continued to have little input into these programmes. Development workers and government officials have come into communities and largely dictated new practices to local people. Some these practices
have had a positive impact, but many others have upset local people. One of the greatest areas of contention has been in compelling local people to change their traditional agricultural practices. Development workers and government officials often blame the traditional practices of the Pgak’nyau and other highlanders for the disappearance of forests in Thailand. Since the 1980s, the government has created more laws and regulations to deal with environmental crises resulting from high rates of deforestation and drought during dry seasons. Some of the environmental measures such as restricting access to forests or resettlement programs, have caused the Pgak’nyau to become increasingly despairing and poor because we depend heavily on natural resources for living.

The Forest Situation in Thailand

The rate of deforestation in Thailand had been alarming. Hirsch (1990) claims that Thailand had the highest rate of deforestation in of all the Southeast Asian countries. However, the rate of deforestation slowed substantially after the government banned logging in 1989. In 1938, Thailand’s once abundant forests covered some 230.9 million rai (36.94 million hectares), about 72 per cent of the total land area. By 1989 forests had been reduced to just 89.9 million rai (14.38 million hectares) or 27.9 per cent of land area (RFD
1989, as cited in Wongkul 1994:87). Today, it is estimated that the total forested area in Thailand accounts for less than 25 per cent of the national territory.

Table 1.2

Forest Situation in Thailand

<table>
<thead>
<tr>
<th>Year</th>
<th>Forest Area (million rai)</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1938</td>
<td>230.9</td>
<td>72</td>
</tr>
<tr>
<td>1947</td>
<td>224.5</td>
<td>70</td>
</tr>
<tr>
<td>1954</td>
<td>192.4</td>
<td>60</td>
</tr>
<tr>
<td>1961</td>
<td>171.0</td>
<td>53</td>
</tr>
<tr>
<td>1973</td>
<td>138.6</td>
<td>43</td>
</tr>
<tr>
<td>1976</td>
<td>124.0</td>
<td>39</td>
</tr>
<tr>
<td>1978</td>
<td>109.5</td>
<td>34</td>
</tr>
<tr>
<td>1985</td>
<td>93.2</td>
<td>29</td>
</tr>
<tr>
<td>1989</td>
<td>89.9</td>
<td>27.9</td>
</tr>
</tbody>
</table>


The area under forest had been reduced greatly by a combination of legal and illegal logging, infrastructure projects (e.g. dams) and encroachment by lowland Thai and highland farmers. The forest industry had been a major cause of forest degradation. However, current patterns of agriculture can also be blamed for the degradation of natural resources in Thailand, especially in the northern region. Ramitanon (1987) reports that the expansion of rice and cash crop production throughout the entire century, for both domestic consumption and export, has resulted in the conversion of large areas of forests into rice fields and
plantations for other cash crops (e.g. sugar cane, tobacco, corn, cassava, etc.).

Deforestation also occurs in the hill areas of northern Thailand where highland people reside. This thesis does not assert that highlanders have not contributed to deforestation. They have, but their exploitation of forests is often exaggerated. Figure 3, clearly shows that the Pgak’nyau are not forest destroyers, as most remaining forests in Thailand are located where the Pgak’nyau are settled. Swidden agriculture practised by of hill farmers may contribute to some of the reduction of forestland in Thailand, but this is only a small contribution factor. Von Geusau (1989) claims that legal and illegal logging which took place before the government ban in 1989, accounted for 70 per cent of deforestation. He also claims that in the north, land clearing by lowland Thai farmers contributed to just over 20 per cent of the loss, while clearing by the Pgak’nyau and other highlanders accounted for only 2 per cent (1989:18).

---

2 Swidden agriculture is also called shifting cultivation or slash and burn agriculture. This practice is associated with the clearing of land by felling trees and burning ground cover. Seeds are planted with the use of a dibble stick in ground that has not been ploughed (Feeny 1982:35).
Figure 3: Extent of Remaining Forests in Thailand

Source: Larry Lohmann, 1993:199.
Various cash crops introduced to hill farmers as opium substitutes by highland development programmes, particularly those introduced through the government's agricultural extension programme, have been a major cause of deforestation in the highland areas of northern Thailand. Cash crops require much more land to generate the same income earned by growing opium. Therefore, tribal farmers, especially opium growers, are forced to cultivate marginal lands in order to survive. These highland agricultural extension programmes may be very successful in terms of eradicating opium crops, but they are also a large contributing factor in the degradation of forests in highland areas.

Table 1.3

<table>
<thead>
<tr>
<th>Year</th>
<th>Forest Area</th>
<th>Horticulture Land</th>
<th>Paddy Land</th>
</tr>
</thead>
<tbody>
<tr>
<td>1961</td>
<td>171,017,812</td>
<td>8,070,000</td>
<td>38,614,000</td>
</tr>
<tr>
<td>1963</td>
<td>138,566,875</td>
<td>20,014,264</td>
<td>41,229,000</td>
</tr>
<tr>
<td>1976</td>
<td>124,010,625</td>
<td>21,361,170</td>
<td>71,316,929</td>
</tr>
<tr>
<td>1978</td>
<td>109,515,000</td>
<td>23,759,115</td>
<td>73,270,474</td>
</tr>
<tr>
<td>1982</td>
<td>97,875,000</td>
<td>29,228,107</td>
<td>73,222,199</td>
</tr>
<tr>
<td>1985</td>
<td>93,158,125</td>
<td>31,604,899</td>
<td>73,902,435</td>
</tr>
</tbody>
</table>

Unit = Rai
For both highlanders and Thais, deforestation has become a highly politicised issue, and one that cannot be ignored. Recently, frequent natural disasters such as droughts, floods and mudslides have been blamed on the high rate of deforestation in Thailand. In particular, a deforestation related mud slide in southern Thailand in November 1988 deeply shocked the public when hundreds died and villages and farmland were buried under meters of logs, uprooted trees and sand. This disaster was a major force behind the government's implementation of a nation wide ban on logging in January 1989 (Lohmann, 1990).

**Research Problem**

During the last two decades, Pgak’nyau people have experienced major changes in their social, political, economic, and traditional ways of life. One of the major changes in Pgak’nyau communities is that we are losing the power to control and manage our natural resources. The Pgak’nyau have experienced an increase in government rules and regulations that control access to natural resources surrounding our communities. The forests we live in have been designed as protected areas. We have experienced government officials coming into our communities and arresting people for practising our traditional agricultural farming system. Government conservation laws have tried to force changes in
our indigenous use of natural resources and have caused
general cultural and economic hardship for our communities.

This research will focus on the contemporary situation
where the Pgak’nyau are faced with government conservation
laws, and ask a number of questions: why Pgak’nyau
agricultural practices are not accepted by the government;
how the Pgak’nyau forest management system has been
marginalised; how the Pgak’nyau people have responded; how
their culture, economy, and ways of life have been affected.

Research Objectives

Significant research has been conducted on the forests
of Thailand, but much analysis has been based on scientific
forest management systems where the concept of liveable
forests is incompatible with conservation aims. This thesis
supports to the growing number of researchers who believe in
a diametrical point of view, that forest dwellers are not
only compatible with conservation measures, but in fact, they
need to be involved if these measures are to be effective.
This thesis in particular, documents the environmentally
sustainable agricultural practices of the Pgak’nyau, because
it aims to give voice to their struggle for cultural survival
in a changing world. This research encourages policy makers
to pursue the compatible goals of preserving both ethnic and
forest diversity.
The main objectives of this research are: firstly, to identify and document the existing systems of Pgak’nyau indigenous resource management. Secondly, to study the impact of conservation laws on Pgak’nyau culture and economy. Thirdly, to compare community change and the contemporary situation of two Pgak’nyau villages - one which has been incorporated into a national park and the other which has been incorporated into a national forest reserve. Fourthly, to study how the Pgak’nyau have responded to state conservation policies. Lastly, to identify possible avenues for addressing conservation concerns in protected areas of northern Thailand where highlanders reside.

**Limitations of the Study**

This study focuses on external pressures affecting Pgak’nyau communities as a whole. It does not address these pressures from the perspective of particular groups or segments within the community. As noted later in the methodology section, data was gathered from a cross section within the study communities, taking in account gender, age and socio-economic status. However, the scope of this study does not provide for specific analysis of the issues or concerns affecting these distinct community groups. Specifically the study does not look at the impact of gender differences either within the villages in question or between
the villages. It is the feeling of the author that this is an area which would warrant specific such study in the future.

**An Overview of the Study**

This thesis is organised into eight chapters. Chapter One is an introductory chapter that provides background information on the research context. Chapter Two provides general information on the Pgak’nyau people in Thailand. It includes information on their religion, education, way of life and contemporary situation, as well as a brief history of Pgak’nyau-Thai relations. Chapter Three is a review of related literature. It reviews the concepts of indigenous knowledge, community-based resource management, property and property rights, and protected areas. Chapter Four outlines the research methodology used. Chapter Five is a description and discussion of the indigenous resource management system of the Pgak’nyau in Thailand. Chapter Six discusses the impact of conservation policies on the Pgak’nyau people. Chapter Seven discusses the Pgak’nyau response to conflict between their use of natural resources and new conservation laws. Chapter Eight draws conclusions and highlights the findings of this study.
CHAPTER II

BACKGROUND OF THE PGAK’NYAU PEOPLE IN THAILAND

This chapter is divided into three sections. The first section provides background information on the Pgak’nyau people, including their religion, education and agricultural practices. The second section describes the contemporary situation of the Pgak’nyau people in terms of the socio-political and development environment. The last section discusses the history of Pgak’nyau-Thai relations.

The Pgak’nyau People

According to tradition, the earliest Pgak’nyau settled in Htee Hset Met Ywa or Land of Flowing Sands, an area bordering the source of the Yang-Tse-Kiang river in the Gobi desert (Lonsdale 1983). From there, the Pgak’nyau migrated to southeast Asia, where they claim they have resided for over two thousand years. They regard BC 739 as the year of their founding (Lewis 1984:70). Therefore, this year (1999) is the Pgak’nyau year of 2738. Refer to Appendix A for further details of the origin of the Pgak’nyau people.

Like many other ethnic groups, the Pgak’nyau consist of a number of sub-groups. Officially, there are 11 different sub-groups of Pgak’nyau in Myanmar. In Thailand, there are two sub-groups of Pgak’nyau: the Cgau (Sgaw) and the Pwo
The majority of Phgk'nyau who live in Thailand are
the Cgau (Sgaw), who comprise approximately 80 per cent of
the population. Most Pghak'nyau in Thailand reside in the
north and western parts of the country, with 76 per cent
living in the provinces of Chiang Mai, Mae Hong Son and Tak.
There are over 2,000 Pghak'nyau villages in Thailand. The size
of Pghak'nyau villages vary, from two to three households to
over 700 households. The average size of a Pghak'nyau village
is approximately 25 to 30 households.

Religion

The Pghak'nyau people have a belief system unique to
themselves. Our traditional beliefs are closely related to
nature and we believe that everything in the world has an
"owner" or spirit. For example, there is a spirit for the
land, mountain, river, large trees and large rocks. The owner
of each object is an unseen supernatural power who lives in a
separate dimension from human beings. The greatest
supernatural power in the Pghak'nyau belief system is the "kaù
k'câ" or Lord of the Land (Mischung 1980). The most important
ceremony in Pghak'nyau traditional belief is the aû qâi where
duties are performed for ancestor spirits. These traditional
beliefs play a major role in how the Pghak'nyau use and manage
natural resources.
During the past few decades, many Pgak’nyau have converted to Buddhism or Christianity. Christianity was brought to the Pgak’nyau in Thailand in 1882 by Pgak’nyau Baptist missionaries from Burma (U Zan, 1955:1), while the Roman Catholic Church began working with them much later in 1951 (Lucie, 1981:4). Christian missionaries have had great success in converting Pgak’nyau people in Thailand. There is no recent census but the Tribal Research Institute reports there are 47,490 Christian Pgak’nyau, that is, about 17.23 per cent of all the Pgak’nyau population in Thailand (TRI, 1989).

According to the Tribal Research Institute, 55 per cent of the total Pgak’nyau population in Thailand practice Buddhism. An additional 16 per cent practice both the traditional beliefs together with Buddhism. Lewis states that large numbers of Pgak’nyau in both Thailand and Burma practice Buddhism, but have not broken away from all Pgak’nyau practices, rather, tending to be eclectic in choosing from both religions (1984:97).

Education

Formal educational levels of the Pgak’nyau are far below those of the Thai population. Seventy-five per cent of Pgak’nyau who are five-years old or older have never had any formal education and another 21.2 per cent have only received
elementary education (Kampe at al. 1996:60). Less than two per cent of the Pgak’nyau population have had any secondary education. The percentage of uneducated Pgak’nyau is very high because in the past, public education was not accessible. The Thai government did not provide education in Pgak’nyau villages until the 1960s. However, Christian missionaries have been involved in providing education for the Pgak’nyau since they began their missionary work amongst the Pgak’nyau in the early 20th century.

Christianity has played a major role in providing education to the Pgak’nyau people in Thailand for many decades. The Pgak’nyau in Thailand were first introduced to the modern education system by Baptist missionaries when a Bible School was established for Pgak’nyau in Chiang Mai in 1911 (Renard 1987:15). Having received educational assistance from churches, Christian Pgak’nyau, mainly Baptist and Catholic, now lead the Pgak’nyau in education. According to my survey data in 1988³, there were 206 Pgak’nyau who had earned a bachelors degree or higher. Of this number, 162 (79 per cent) were Christian Pgak’nyau.

Before the 1960s, the Thai government paid little attention to highlanders and therefore, there were very few schools accessible to Pgak’nyau children. The first public

³ The survey was conducted in Chiang Mai, Chiang Rai, Mae Hong Son and Tak provinces, where almost 80 per cent of the Pgak’nyau in Thailand live.
school in highland areas was operated by the Border Patrol Police (BPP). Since that time, primary schools have been established in most Pgak'nyau villages. Larger primary schools are operated by the Office of the National Primary Education Commission and others are run by various departments and organisations, such as the Border Patrol Police, the Department of Non-formal Education, the Department of Public Welfare, and Buddhist temples. However, there are still very few secondary school operated in Pgak’nyau villages.

Agriculture

The economy of Pgak’nyau in Thailand consists of two main sectors, subsistence agriculture and the market economy. The most important sector for most Pgak’nyau villages is agriculture, which is based on swidden farming and wet rice cultivation. Rice is the most important crop for the Pgak’nyau. It is the food staple and “is valued more than money or other material acquisitions – having enough rice for the whole year is a vital to the [Pgak’nyau] way of life” (Luangarumsri, 1993:35). Rice production can be divided into two systems: wet rice and dry rice. Wet rice is grown in terraced fields and requires water from an irrigation system, while dry rice is grown in swidden fields and is reliant only on rain. In the past swidden agriculture was the dominant
agricultural system for the Pgak’nyau people in Thailand. This has declined, but Hurst reported in 1990 that most Pgak’nyau (59 per cent) still practised swidden agriculture, as opposed to cultivating permanent, terraced fields (1990:241). Many Pgak’nyau people practice both swidden farming and wet rice cultivation, but the percentage of Pgak’nyau who practise the former is declining due to Thai government conservation policies.

The market economy has become a vital part of the Pgak’nyau economy. In the past, most of what little cash income people received, came from selling forest products and domestic animals such as pigs, cows or water buffalo. Another sources of cash income were from employment in teak logging. Many Pgak’nyau were involved in teak logging as labourers or sub-contractors before logging was banned in 1989. Prior to the 1970s, very few Pgak’nyau villages earned cash income from selling crops. This began to change with the introduction of development and agricultural extension projects, and with the construction of more roads linking Pgak’nyau villages to markets in Thai towns. Today, the market economy has become an important part of the economic life of many Pgak’nyau villages. The production of saleable goods allows the Pgak’nyau to buy goods associated with a higher standard of living, as well as to buy additional
foodstuffs to compensate for the loss of swidden fields due to new environmental restrictions.

Swidden Agriculture

Because swidden agriculture is one of the most important farming systems for Pgak’nyau people in northern Thailand, this section will elaborate on this type of agriculture. Swidden agriculture is also called shifting cultivation, slash and burn agriculture or rotational farming. Hinton (1975) asserts that this type of agriculture supports an estimated 50 million people in Southeast Asia. It is believed that several hundred million people, especially in tropical countries, still rely on this system of agriculture.

There are many different types of swidden agriculture. Kunstadter (1978) categorises swidden agriculture practised in Thailand into three major types: 1) short cultivation-short fallow; 2) short cultivation-long fallow or "forest fallow"; and 3) long cultivation-very long fallow or abandonment.

The first type of swidden agriculture is characterised by short cultivation and short fallow periods. The cultivated land may or may not be claimed by a village unit as a whole, and individuals may retain user-rights for several periods of cultivation or they may simply abandon their fields after using them temporarily. Short cultivation-short fallow is
often practised by the lowland Thai farmers. The second type of swidden agriculture, a short cultivation-long fallow system, is often practised by the Pgak’nyau and the Lawa (further discussion will follow). And the third type of swidden agriculture, a long cultivation-very long fallow system, is often practised the Hmong and other highlanders. In areas cultivated under this latter system, forest cover almost never returns within a human lifetime (Kunstadter 1978: 5-11).

In the hill areas, there is little suitable land that can be converted into wet rice fields and therefore, swidden agriculture developed as the most important source of livelihood for most Pgak’nyau. Because of both our traditional respect for spirits of the land and our understanding that our livelihoods depended on sustainable agriculture, we developed rules and regulations that become community norms in managing swidden agriculture. Our agricultural techniques and practices have enabled us to mitigate forest disturbance and sustain our use of environmental resources. The Pgak’nyau have long practised conservation techniques that prevent forest and soil degradation and allow for rapid regeneration of forest cover during fallow periods.

Some of these “rules” or techniques to prevent forest destruction were: 1) the use of firebreaks to prevent the
spread of fires when burning fields, 2) the avoidance of breaking or disturbing top soil in all stages of cultivation, 3) the cultivation of rotational farming land for only one year and keeping the land fallow for as long as possible (usually not less than seven years), and 4) the non-removal of tree roots and stumps in cleared rotational farming fields. Left standing about two feet above ground, these tree stumps allowed new shoots to sprout within six months of being cut (Kunstadter 1978).

Before cultivating a particular piece of land, the Pgak’nyau show great concern as to the length of time that land is left fallow. Ideally, they allow for at least seven to ten years of fallow before cultivating the land again. Marshall reports that at least seven years should intervene before a plot is replanted and even this period is too short for optimum production of crops (1922:75). A longer forest fallow would normally provide for improved soil fertility and result in better crop production. However, seven years of forest fallow is an optimal period, not only for soil fertility reason, but also for labour reasons. The Pgak’nyau rarely cultivate forest land that has been left fallow for longer than ten years, because the trees would have become too large and would require an inordinate amount of work to cut down. However, today the length of fallow periods is
decreasing to four to five years or even less, due to government intervention and population pressure.

Pgak’nyau agricultural practices are more than simply a collection of farming techniques. They also form a code of conduct for the community members. For example, setting fires in forest fallow is considered a serious offensive in many Pgak’nyau villages, particularly those which do not have much wet rice land. Setting fires in forest fallow destroys soil fertility and directly results in lower rice production. Moreover, nonessential fires cause forests to regenerate at a slower pace than might be expected. Both results affect not only the individual, but also impact the wider community. The importance of the community collectively managing swidden agriculture is reflected in common language and agricultural practice.

- The Forest Fallow System (hsgi and doo lā)

Pgak’nyau call swidden land under cultivation “qū”, but after rice is harvested, the land is referred to as “hsgi” or forest fallow. The main purposes of hsgi are to allow trees to regenerate and soil to regain nutrients. According to Itthiolankul (1998), the Pgak’nyau classify forest fallow into five categories depending on the number of years the land has been left fallow.
After rice is harvested, the first year of forest fallow is called *hsgi aŭ mei*, while the second year is called *hsgi wa*. In *hsgi aŭ mei* and *hsgi wa*, tree stumps are allowed to sprout new shoots and regenerate. Some vegetables such as taro, cassava or chillies, which were planted together with the original rice crop, will remain growing in the *hsgi* during following fallow year and the owner is normally able to gather vegetables left over in the field. The third and fourth years of fallow are called “*hsgi baŭ poo*”. In these years of fallow, grass and small trees have grown, making the fields a good place to raise cattle. The fifth and sixth years are called “*hsgi yaŭ plō*”. Trees in these areas are quite large and soils have regained the nutrients necessary for growing new crops. After seventh year, the forest fallow is no longer called “*hsgi*”, but instead, is referred to as “*doo lā*”. *Doo lā* is a forest fallow where the land is ready to be cultivated again.

- The Farming Process

The process of swidden farming or rotational farming among the Pgak’nyau can be described in five phases: site selection, cutting and burning, cropping, weeding and harvesting.
Phase 1: Site selection

Normally, the Pgak’nyau will decide on a new site for rotational farming in the month of T’lei (January-February). Site selection is a very important process. Each family needs to select good “doo là” with the nutrients necessary for a crop. Luangarumsri (1993) claims that bamboo forests are considered the most appropriate doo là for rice cultivation because the soil is black, fertile and full of nutrients. Additionally, Trakansupakorn (1997) claims that pine forests are not good for rice cultivation because there the soil is dry and lacking in nutrients. Besides forest types, land topography is another key factor in site selection. For dry rice farming, Luangarumsri (1993) asserts that the preferred land is fairly flat, with a gradient of between five to ten degrees.

Not all forestland can be cultivated and there are several taboos which must be taken in account when selecting new plots for rice cultivation. Trakansupakorn (1997) asserts that a family is not allowed to select doo là where the irrigated land of another farmer lies between the family’s hsgi and their proposed doo là. This taboo aims to prevent land use conflict between the two families. He also claims
that people are not allowed to cultivated doo lá where the
fields are located in two opposite directions of the village.

**Phase 2: Cutting and Burning**

Families begin cutting trees in their selected “doo lá”
during the month of hti hpaï (February-March) after the
village hold a ki cu ceremony, which is a “wrist-tying” or
New Year’s ceremony. During the cutting or clearing period,
intensive labour is required and most families will exchange
labour during this time. After being cut down, trees are left
to dry for three to four weeks before they are burned.

Normally Pgak’nyau people in northern Thailand start to burn
swidden fields in early April before the rains begin. Before
the felled trees are set on fire, each family will create a
fire control line to prevent flames from spreading into other
forest fallow. Luangarumsri (1993) describes the importance
placed on knowledge of burning methods. A proper day for
burning is one that is clear, with bright sunshine and a
moderate breeze. People usually burn their fields in the
afternoon because the heat is greater at that time.

Luangarumsri (1993) also claims that a proper burning is
necessary if the burnt wood is to provide nutrients to enrich
the soil. A poor burning not only requires further work to
clear the remaining branches, but also, fewer nutrients are
added to the soil.
Figure 4: Burned Swidden Field
Figure 5: Dry Rice Dibbling
Phase 3: Cropping

Pgak’nyau normally begin planting crops after the first rains in May. Rice is planted by dibble into the qū or swidden field. Itthiolankul (1998), reports that the Pgak’nyau in Mae Lan Valley grow 28 different species of buqū (dry rice or highland rice), including four different types of sticky rice. Multi-cropping is an integral feature of Pgak’nyau swidden fields.

Itthiolankul (1998) reports that alongside rice, the Pgak’nyau also grow many species of 25 kinds of vegetables, for a total of about 90 different vegetable crops. Different crops are planted at different times and locations. Taro, sweet potatoes and corn are normally planted earlier, while rice and other crops are planted later. Beans, melons and flowers are normally mixed with rice seeds for dibbling. Pumpkin and bottle gourds are usually planted close to fences or large tree stumps in the field for vine support.

Phase 4: Weeding

Weeding or “klau naù” is crucial in growing dry rice. Fields need to be weeded at least twice over the growing season. New shoots from regenerating tree stumps also have to be cut back to ensure the rice gets maximum sunshine. Luangarumsri (1993) claims that farmers who weed carefully
attain better yields. Generally weeding is done manually, though some Pgak’nyau in Samoeng District of Chiang Mai Province spray a salt and water mixture onto rice fields to kill weeds.

Phase 5: Harvesting

Because swidden agriculture is a multi-crop system, harvesting of crops takes place over a period of time. The harvest of dry rice, the main crop in swidden fields of Pgak’nyau in northern Thailand, usually begins in the middle of October. However, other crops such as corn, melons, spices and other vegetables are harvested earlier.

The Contemporary Situation

The Pgak’nyau have resided in Thailand for several centuries, but not all of them have Thai citizenship. Thai citizenship is held by only 89 per cent of the Pgak’nyau. Particularly along the Thai-Burmese border, a large number of our population has no official status. However, the percentage of Pgak’nyau who hold full Thai citizenship is much higher than the percentage for all highlanders as a group. Thai citizenship is not automatically granted based on birth in Thailand and many highlanders do not attempt the complicated application process. As a result, only 23 per cent of the total “hill tribe” population has full Thai
citizenship (Kampe 1996). Thai citizenship is very important because "illegal immigrants" are not officially allowed to access public health care and higher education. Many Pgak’nyau children cannot attend high school because their births were not officially registered and they do not have Thai identification.

Most Pgak’nyau also do not have legal rights to the land they cultivate. Fewer than 35 per cent of them hold land titles to their fields. Most land rights that are held are for paddy lands located in river valleys. The majority of Pgak’nyau live in public and national forest land, which is technically illegal. Indeed, some government departments would like to force the Pgak’nyau off national forest lands through massive relocation (McCaskill 1997).

The health of Pgak’nyau villagers, like other highlanders, is substantially below that of lowland Thais. The infant mortality rate amongst the highlanders is 82 per thousand, compared to 41 per thousand for Thais (Kampe 1996). Pgak’nyau who have Thai citizenship are eligible for government health and family planning services. In the last ten years, free health care has been introduced for poor families and this is available to more Pgak’nyau families. However, their access to these services has been limited because most people live in relatively remote villages some distance from centres of development (Kesmanee 1987:4).
Recently, the government has begun to build public health centres in Pgak’nyau villages, but because most Pgak’nyau villages are small, not many have a public health centre. One public health centre may provide care for 10-15 villages.

Despite the fact that Pgak’nyau communities are moving away from a relatively independent, subsistence economy and becoming increasingly a part of the cash economy, income levels remain very low. It is estimated that the average annual family income for the Pgak’nyau is approximately $500, while the national average is over $3000. Some families have been able to take advantage of new economic opportunities, but for most, a stable economic existence is beyond their reach.

The contemporary situation of the Pgak’nyau, having unclear legal status and lower levels of health and income, led the Thai government to a recognition that major efforts were required if the Pgak’nyau and other highlanders, were to attain an acceptable standard of living. However, the Thai government has provided development assistance to “hill tribe” groups in an uneven manner. Most development programs were initially targeted at priority groups, those that traditionally grew opium such as the Hmong, Mien, Lisu and Akha. Pgak’nyau villages received little development assistance from the government because the Pgak’nyau did not grow opium and posed no specific problem to the government
(Kampe 1997:145). During the past three decades, various agencies from the west have worked towards development of highland areas, but their initiatives also concentrated on growers of opium. As a result, most highland development projects were specifically designed as crop substitution programs to replace opium production with the introduction of new cash crops such as coffee, vegetables, flowers and etc.

The exclusion of the Pgak’nyau from highland development programs began to change in the early 1980s because of government concerns about the spread of communism in Thailand. After violent student protests in 1973 and 1976, many students and members of the Communist Party of Thailand (CPT) began to make more concerted efforts to spread communist ideology in rural areas of north and northeast Thailand. The government adopted a strategy to actively develop loyalty to the state and compete for the hearts of rural people by providing programs and services that had previously been neglected in these areas. Under this new government strategy, the Pgak’nyau in areas threatened by communist insurgency become recipients of infrastructure and development programs that hitherto and been unavailable to them.

Statistics on assistance provided to different highland groups have been clear in documenting the uneven manner in which groups have benefited various programs. The Pgak’nyau
who represent 50.7 percent of the total tribal population received only 12.96 per cent of all development efforts (Kampe 1996:105). Kampe (1996) also reported that there were only 0.09 highland development projects or activities per Pgak'nyau village (See Table 2.1), as opposed to 2.93 per Yunanese Chinese village and 1.23 per Hmong.

Table 2.1
Highland Development Activities/Projects by Ethnic Group

<table>
<thead>
<tr>
<th>Ethnic Group</th>
<th>No of project or activity</th>
<th>Percentage</th>
<th>No of project or activity per village</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hmong</td>
<td>212</td>
<td>22.15</td>
<td>1.25</td>
</tr>
<tr>
<td>Mien</td>
<td>141</td>
<td>14.73</td>
<td>1.01</td>
</tr>
<tr>
<td>Pgak'nyau</td>
<td>124</td>
<td>12.96</td>
<td>0.09</td>
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<tr>
<td>Lahu</td>
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<td>9.93</td>
<td>0.39</td>
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<tr>
<td>Lisu</td>
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<td>9.61</td>
<td>1.64</td>
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<td>Akha</td>
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<td>9.30</td>
<td>1.20</td>
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<td>Htin</td>
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<td>1.64</td>
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<tr>
<td>Khamu</td>
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<td>5.64</td>
<td>2.45</td>
</tr>
<tr>
<td>Yunan Chinese</td>
<td>41</td>
<td>4.29</td>
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</tr>
<tr>
<td>Mlabri</td>
<td>9</td>
<td>0.94</td>
<td>0.38</td>
</tr>
<tr>
<td>Others</td>
<td>46</td>
<td>4.81</td>
<td>1.31</td>
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<tr>
<td>All Groups</td>
<td>957</td>
<td>100.0</td>
<td>0.44</td>
</tr>
</tbody>
</table>

Source: Kampe et al., 1996:105.
Figure 6

Highland Development Projects in Northern Thailand

In terms of large scale development projects, McCaskill (1997) reported that the vast majority focus on technical and material developments such as infrastructure (e.g. roads, water systems), agriculture (e.g. crop substitution, fertilisers), institutional development (e.g. Thai schools, local government structures) and reforestation and land use. The social and cultural aspects of development are almost completely ignored, as is the impact of development efforts on the traditional culture of the Pgak’nyau. Projects tend to be "top down", with the Pgak’nyau people generally being excluded from any meaningful decision-making roles.

A Brief History of Pgak’nyau-Thai Relation

According to the “Chamadevi Dynasty Chronicle” of Haripunjaya in the north of Thailand, the Pgak’nyau were already living in the vicinity of the ancient city of Chiang Mai as early as the 8th century A.D. (Coedes 1925:12-13 as quoted by Napat Sirisambhand 1992:15). In other words, the Pgak’nyau have been present in what is now Thailand for over one thousand years. The Pgak’nyau believe that they were the first people in the Ping River Valley, preceding even the Lua who were there before Thais appeared in large numbers during the 13th century (Renard 1987:6). For a long period of time, the Pgak’nyau and Thai have lived in northern Thailand with usually harmonious relations.
Though the Pgak’nyau have resided in what is now northern Thailand for a longer time, there are few records of their relations with the Yuan (northern Thai) and Siamese (central Thai). The Pgak’nyau had no written language until 1832 when American Baptist Missionaries created a script, therefore no written records were made to document their history. Keyes claims that during the 13th to 17th century, the Pgak’nyau virtually disappeared from the Yuan and Siamese records. However, from the 18th century onwards, the Pgak’nyau become of greater interest to the Yuan and Siamese. Keyes reports that:

it was only with the major political upheavals of the eighteenth century that the Pgak’nyau began to come to the attention of the Siamese and the Yuan; that is, it was only when events forced the Siamese and the Yuan to restructure their conceptions of ethnic group relations that the Pgak’nyau became a significant category for them (1979:31).

Before the 18th century, the population of the Pgak’nyau in Thailand was very small and they were of little interest to the Yuan and Siamese. During this period, Yuan attentions were also taken up by the Burmese occupation of the Yuan state of Lanna. The Burmese ruled Chiang Mai, the capital city of Lanna, from 1575-1774. In 1774, a Yuan force under the leadership of the rulers of Lampang, together with a Siamese force sent by King Taksin, succeeded in taking Chiang Mai but the battle left the capital city virtually in a ruins
During the war, many Pgak’nyau fled the area and went into hiding in the surrounding jungle.

With the expulsion of the Burmese in the 18th century, the Pgak’nyau became more important to the Yuan and Siamese. Kawila, the ruler of Chiang Mai, sought to establish new relationships with the Pgak’nyau in order to secure his borders and repopulate his kingdom (Keyes 1979:38). In 1783, according to the Chiang Mai Chronicle, Kawila delegated Phraya Samlan to take 30 retainers and present 40 beautiful decorated bowls to the Pgak’nyau who wears a turban with silver thread and who is a border chief (quoted by Keyes 1979:38).

As Siam and Burma continued warring into the next century, the Pgak’nyau acted as scouts and spies on Burmese troops movements along the western border. Under the reign of King Rama III the town of Sanklaburi was established to provide refuge to the Pgak’nyau. A Pgak’nyau leader was appointed as head of Sanklaburi and given the title of Phra Sri Suwan Khiri (Sirisambhand 1992). Sirisambhand (1992) also reports that during the reigns of King Rama I to Rama V, the Pgak’nyau were given recognition by Siamese rulers and were integrated into the local government system. This was part of a deliberate strategy to safeguard against invasion by Burma and later, the annexation by the British colonial power. Two more Pgak’nyau towns were established in the west of
Kanchanaburi province as part of this strategy. These two towns were required to send annual tribute to Bangkok, comprising mainly of jungle products such as wild honey, ivory and precious wood.

According to Renard (1987), Thais saw themselves as civilised Buddhists, while the Pgak’nyau were regarded as uncivilised, non-Buddhists. However, this view of the Pgak’nyau as uncivilised was not at odds with a recognition of the worth of the Pgak’nyau people. Because they were forest dwellers, the Pgak’nyau had access to products such as lac, rattan, animal hides and skins, plants used in pharmaceutical preparations, and minerals and ores such as gold and tin. Renard asserts that from the 18th century to the end of 19th century, income from the trade of forest products put the Pgak’nyau in a secure economic footing vis-à-vis their Yuan neighbours. Furthermore, the Pgak’nyau were important in teak logging because most elephants used in logging operations in northern Thailand were owned by the Pgak’nyau who were recognised for their skills as elephant mahouts (elephant drivers). The Yuan also recognised the scouting skills of the Pgak’nyau’s. As well as acting as guides and undercover agents, some Pgak’nyau additionally served as a part of the northern Thai expeditionary forces (Renard 1987:8).
Renard (1980) reports that by the end of the 19th century, relationships between the Yuan and Pgak’nyau had begun to change. The influence of the West now more directly impacted northern Thailand. Teakwood had become a very valuable commodity and the land on which it stood became a subject of dispute. These disputes brought the central government into the Chiang Mai area, thereby beginning a breakdown of the traditional relationship between the Pgak’nyau and the Yuan. After 1901, when the Bangkok government divested authority from Chiang Mai rulers, the Pgak’nyau became one more step removed from power. The Pgak’nyau who had been loyal followers of local rulers now lost personal and direct contact with governing powers. Additionally, the forest products which the Pgak’nyau had once prospered on began to lose value. Western and Chinese pharmaceuticals became more popular than Pgak’nyau medicines and metals from outside the region began to compete with those offered by the Pgak’nyau. As a result, Pgak’nyau prosperity and prestige in market integration began to decline.

Renard (1987) also asserts that many Pgak’nyau who lived amongst Thais became assimilated, while those who lived in hill villages retreated into isolation. He argues that in a vast majority of villages, even the degree of "Kareness", which had been so strong in the first half of the 19th
century, was being seriously threatened. Renard (1987) argues that the Pgak'nyau lost their pride at being Pgak'nyau because of their loss of status in the political and economic changes of the early twentieth century. Some no longer wanted to be recognised as Pgak'nyau. The Morning Star, a Pgak'nyau-language newspaper from Tavoy, Burma, reported that:

> In 1912, over 100 Pgak’nyau families in Chiang Mai alone were hiding from the fact that they were Pgak’nyau. Other Pgak’nyau knew who they were but these people did not wish that Thais recognized them as such (as quoted by Renard 1987:11).

Political events in the middle of the 20th century caused further decline in the status of the Pgak’nyau. During the mid-1950s, Thai military planners became alarmed by fighting in Laos and Vietnam which involved minority groups. They feared that members of minority groups in Thailand, such as the Hmong and Yao who also lived across territorial borders, might threaten Thailand’s national security (Renard 1980). The Thai Government was spurred into implementing development programs in the hills of the north. Although these programs were primarily aimed at the Hmong and Yao who were involved in the Indochina fighting, they came to be applied to all the so-called "hill tribes", including the Akha, Lahu and Lisu and indigenous groups like the Pgak’nyau and Lua. These programs were designed to inspire loyalty to the Thai nation, as well as to eliminate the cultivation of opium as a cash crop by these groups. It was at this time
that the Pgak’nyau, who were once considered a group indigenous to northern Thailand, become viewed as one of the nine official "hill tribes" of Thailand (Renard 1980). The Pgak’nyau, now labelled as "hill tribe", faced further prejudice in being viewed as disloyal, opium-growing, second class citizens of the country.
CHAPTER III
LITERATURE REVIEW

In order to understand how conservation policies have come to affect the traditional lives of Pgak'nyau people this research applies several concepts. Firstly, it will apply the concept of indigenous knowledge systems by reviewing its definitions, constraints and limitations. Secondly, this chapter will review the concept of community based resource management systems. Thirdly, it will review the concept of property and property rights, and discuss the Pgak’nyau concept of property rights under their natural resource management system. Lastly, the chapter will review the concept of protected areas.

**Indigenous Knowledge System**

Indigenous knowledge systems (IKS) have existed for a great length of time but they have been overshadowed by scientific knowledge systems. Recently, IKS has become of greater interest to people in both academic and non-academic fields. IKS holds different meanings for different people, but Warren, one of the leading scholars in the field of Indigenous Knowledge (IK), defines IK as:

Indigenous knowledge (IK) is local knowledge - knowledge that is unique to a given culture or society - IK contrasts with the international system generated by universities, research institutions and private firms.
It is the basis for local level decision making in agriculture, health care, food preparation, education, etc. (1991:1)

Ahmed defines IK as:

\[ IK \text{ is composed of people "do·how", know·how and accumulated experiences over time including both internally generated as well as externally borrowed and adapted knowledge in a given time (1994:12-13) } \]

While McCorkle distances IK from empirical Western science, by stating:

\[ IK \text{ is comprised of] theories, beliefs, practices, and technologies that all people in all times and places have elaborated without the direct inputs from the modern, formal scientific establishment (1989:4 as quoted by Wickham 1993:14) } \]

In general, IK is a local knowledge about managing daily life that people have learned in order to live sufficiently within the given environments. IK exists in several forms such as local adages, folklore, taboos, songs, proverbs and stories (Weckham 1993). Castellano (1997) claims that the main characteristics of IK are to be personal, oral, experiential, holistic, and conveyed in narrative or metaphorical language. According to Castellano (1997), the personal nature of knowledge can be accepted as valid because they are unique to the person. Hall et al. (1999) report that IKS are passed on through the generations by women and men who have the trust of the elders or the community.
Table 3.1
A Comparison of Indigenous Knowledge and Western Scientific Knowledge

<table>
<thead>
<tr>
<th>Area of Comparison</th>
<th>Indigenous Knowledge</th>
<th>Western Scientific Knowledge</th>
</tr>
</thead>
<tbody>
<tr>
<td>Relationship</td>
<td>- Subordinate</td>
<td>- Dominant</td>
</tr>
<tr>
<td>Dominant mode of thinking</td>
<td>- Intuitive (holistic)</td>
<td>- Analytical (Reductionist)</td>
</tr>
<tr>
<td>Communication</td>
<td>- Oral</td>
<td>- Literate/Dialectic</td>
</tr>
<tr>
<td></td>
<td>- Story telling/singing</td>
<td>- Academic</td>
</tr>
<tr>
<td></td>
<td>- Subjective</td>
<td>- Objective</td>
</tr>
<tr>
<td></td>
<td>- Experimental</td>
<td>- Positivist</td>
</tr>
<tr>
<td>Effectiveness</td>
<td>- Slow/Inconclusive</td>
<td>- Fast/Scientific</td>
</tr>
<tr>
<td>- Data Creation</td>
<td>- Short-term Cycles</td>
<td>- Short-term Linear</td>
</tr>
<tr>
<td></td>
<td>(recognised on set of long-term cycles)</td>
<td>(poor/inconsistent long-term analysis)</td>
</tr>
<tr>
<td>- Prediction</td>
<td>- Spiritual (the inexplicable)</td>
<td>- Scientific Inquiry (hypothesis/laws)</td>
</tr>
<tr>
<td>- Explanation</td>
<td>- Ecological (inconclusive, internally differentiating)</td>
<td>- genetic and hierarchical</td>
</tr>
<tr>
<td>- Biological Classification</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>


IK differs from scientific knowledge in many ways (See Table 3.1), but most striking is the oral tradition through which knowledge is learned and communicated from generation to generation, and the acceptance of the spiritual, that which cannot be explained through scientific analysis. However, IK does not necessarily have to be in conflict with
scientific knowledge. Warren (1991) claims the two systems can be complementary and in many instances IK has been proven to be valid under scientific analysis.

In the past, IK was largely neglected in rural development planning in developing countries because it was believed to be in conflict with scientific knowledge. The success of the Industrial Revolution, with its foundation based on scientific knowledge, led many development planners to believe that scientific knowledge was the only valid body of knowledge. The implication of this belief was that the knowledge of rural people was "backward, conservative, inefficient, inferior, and based on ignorance or fear" (Thrupp, 1989:14). Moreover, it was difficult for many development planners to validate IK in their work because "rural communities have always been the subject of planned intervention and change" (Wickham 1993:32). Dove (1988) argues that the neglect of IK in rural development planning was simply due to a structural issue. Dove reports:

It is difficult for the typical, highly educated, and highly paid development planner to accept that the typical, poorly educated, and poorly paid villager knows far more about his own local economy and environment than the expert knows or is likely to learn. This fact is threatening to those development experts who mistakenly interpret "expert" as "all knowing" (1988:7)

However, during the past two decades many rural development projects have proved that the "expert" is not all knowing. In many instances, "experts" fell into conflict with
local people because they intentionally or unintentionally abused or insulted traditional systems. This often lead to a lack of co-operation from local people, resulting in the failure of many rural development projects.

Lessons from repeated failure of many rural development projects have lead development planners to consider the importance of local participation. This opens the way for recognition of IKS in development planning. The World Health Organisation (WHO), for example, has now officially recognised that “many facets of traditional medicine - in particular indigenous botanical medicines, and traditional midwifery - must be accorded a more prominent position in developing world health policies and programming” (Zarate 1998:184). In development planning, planners must take into account existing local knowledge. Local people cannot be ignored in the development process because they are likely to know more about their social conditions and natural environment than outsiders. Wickham (1993) believes that IK is bound to take on a more meaningful role in development planning because of the potential contribution it can make to the development process through its principles of inclusiveness, social and environmental sustainability, community dignity and popular knowledge. Wickham describes the four principles of IK below:

1. Participation: People participate in development when they are solicited to demonstrate, explain or teach their
local knowledge, or when they are engaged as local researchers.

2. Sustainability: IK is pre-adapted to natural and human ecological conditions in terms of environmental suitability, cost, accessibility, ease of comprehension, and “fit” with existing social and political structures.

3. Human Dignity and Empowerment: Legitimising, encouraging and reinforcing IK empowers individuals and communities to gain and strengthen their dignity and confidence.

4. Equity of Difference: IK is possessed by all community members regardless of their gender, age, education or economic status (1993: 35).

Though IK has valuable contributions to make to the process of development planning, traditional knowledge also has its limitations and weaknesses. Kunstadter (1978), for example, claims that swidden agriculture as practised by the Lua people in northern Thailand is ecologically sustainable only as long as there is no population pressure, but with population increases, traditional systems become inappropriate. Take for another example, the use of cows or water buffaloes to plough land. Once considered an advanced way cultivate soil, the use of draught animals is now considered a backward method by even hill farmers in northern Thailand. These same hill farmers saw the benefits and adopted new grain varieties which were developed through scientific methods. There would seem to be a clear need to include both IK and scientific knowledge in development planning. Combined, the two knowledge systems can enhance each other as Warren reports:

It is possible to identify beneficial aspects of the IKSs as well as those that could be improved through

Community-based Resources Management

The term "community" popularly implies a group of people with common interests (Korten 1986:2). But the meaning intended here refers to a group of people who live in a common location and have shared interests, shared meanings and interaction. According to Korten (1986), three major features of community resource management can be identified. Firstly, a community has the right to control and manage productive resources. Secondly, a community develops systems or mechanisms by which its members capture and use locally available resources to meet individual and collective needs. Thirdly, such mechanisms are agreed upon by the community to be effective and equitable. Community-based resource management systems vary from one community to another, depending on the degree to which resources are locally controlled and, if locally controlled, the extent to which control is broadly shared among community members (Korten, 1986:3).

In terms of environmental conservation, community-based resource management provides a sustainable means of using resources. Vivian (1991) and Ghai (1992) support locally based resource control by citing the abilities of traditional
systems of resource management to maintain the health and integrity of the environment. Because their livelihood depends directly on natural resources, rural communities tend to develop systems or methods to ensure the protection of their environment. In most societies in the developing world, there are numerous associations, for instance of religious or spiritual significance, that are attached to certain plants or animals. Indigenous environmental knowledge which has been developed, refined and transferred from generation to generation in rural communities is often the best guide to sustainable resource management. Ahmed (1994:6) claims that sustainable agriculture is the most relevant approach to achieving sustainable development in developing countries. One of the objectives of sustainable agriculture is to optimise the use of locally available resources in an integrative and complementary way. That is, to maximise benefits, minimise costs of production, and enhance sustainability and regeneration of resources in the farming system, resources such as soil, water, plants, animals, organisms, climate and people. Another objective of sustainable agriculture is to nurture self-identity in terms of a people's culture, ideology and beliefs. By preserving and reproducing indigenous farming systems, indigenous knowledge and heritage, the sustainable approach nurtures and maintains the identities of various communities world wide.
(ILEIA 1991). Sustainable agriculture also aims to enhance the productivity of farming in the traditional sub-sector. This is done through improving the productive capacity of available factors of production in order to meet needs for subsistence and to maximise returns of exchange from surplus production (Ahmed 1994:9).

One of the principal reasons for the impoverishment of natural resources today in most developing countries, is the breakdown of traditional systems of resource use and the consequent loss of community control and responsibility over resources. In Thailand, the situation is not much different from another developing countries. Most studies on natural resource utilisation before the 1970s, especially those on forest use, supported the Thai government in increasing central control on the use of natural resources by local communities. Thiem Komkris (1978), the former dean of the Faculty of Forestry at Kasetsart University in Bangkok, blamed shifting cultivation or swidden agriculture as being the cause of forest and soil degradation. He claimed that shifting cultivation destroyed 250,000 rai (40,000 hectares) of forest land in Thailand annually, so he proposed that the government should stop local people from practising shifting cultivation in forest areas (Komkris 1978:63-67).

Often from the point of view of the Thai government, local people are viewed as having a harmful system of natural
resource management. Therefore, the government tries to use "scientific method" which they borrow from the West, to replace the traditional resource management systems of local people. They often use the enforcement of state laws to clear problems by removing local people from their native land. But this scenario raises an interesting question: if local people do not have an effective natural resource management system, then how can they still survive?

In reality, local people, particularly forest dwellers, will adapt to the environment. Kunstadter (1978), who studied the agricultural systems of the Lawa and Pgak’nyau in northern Thailand, found that these two highland groups who traditionally practised shifting cultivation, had adapted themselves by converting swidden land to terraced land and building irrigation systems to grow rice when they faced a crisis in the lack of forest fallow.

Ramitanon (1987) also asserts that swidden agriculture, as practised by highlanders in northern Thailand, is a permanent, sustainable agricultural system for farmers in the forest. Based on long experience, farmers have developed a forest fallow system where each holds more than one plot of land. The farmer does not use the same land continuously, but rather rotates cleared plots. The rotation of forest fallow land is a permanent land use system, because it does not destroy the ecological system of the forest. As a result,
Ramitanon proposed that the Thai government review its forestry policy and recognise the traditional farming systems of farmers in the forest.

**Property and Property Rights**

Gibbs and Bromley (1989) describe property as the result of a secure claim to a resource or the services that a resource provides. Property is not an object, rather a right over things, and thus property is a social relationship (Fly 1914, MacPherson 1978, Hallowel 1955, Coward 1986, Boonto 1991). Many definitions are given for the concept of property rights. Bromley (1989 cited in Baker 1992:18) defines property rights as a triadic relationship which depends upon three sets of variables:

1. the nature and kinds of rights that are exercised, and their correlative duties and obligations;
2. the individuals or groups in whom these rights and duties are vested; and
3. the objects of social value over which these property relations pertain.

Crocombe (1974, cited in Boonto 1991:11) defines property rights as a system of patterns of behaviour that specifically serve to control a society's use of environmental resources.
Gibbs and Bromley (1989) claims that property rights in resources exist in a variety of forms but most commonly as:

1. state property, where the secure claim rests with the government - as in a public forest or a national park;
2. private property, where the claim rests with the individual or the corporation; and
3. common property or communal property, where individuals have claims on collective goods as members of recognised groups.

Most governments formally recognise only state property and private property. Communal property of local people is often not recognised, even where there has been long standing communal use. In the 20th century, communal property rights have been viewed with deep hostility by governments and conservationists. The hostility is based on a belief that resources held in common are subject to massive degradation because an individual has free access to communal property and finds it economically rational to exploit commonly held resources to the fullest extent possible. This belief has roots in the influential idea of the 'tragedy of commons' as presented by Hardin (1968). As solutions to resource degradation, Hardin recommends either or both the privatisation of commons and expropriation for public ownership. However, this view has lost theoretical and
empirical support in recent years in face of critique by common property researchers. Feeny, Berkes, McCay and Acheson (1990) argue that Hardin's model is too simplistic and fails to make the distinction between common property regimes which consist in essence of jointly held property, and open access systems which are in fact subject to degradation. These latter researchers also see potential in communal property arrangements for preserving resources.

In Thailand, the government used to formally recognise communal property rights. Uwanno claims that during the Sukhothai Period (1238-1375), the state allowed local people to occupy and use forests, as well as officially recognising the communal property rights of these forest communities (1993:492). Official recognition of communal property rights lasted for several hundred years, but began to decline when the Royal Forest Department was established in 1896. And when the Forest Act was passed in 1941, official recognition of communal property rights completely ended (Uwanno 1993).

Today, the non-recognition of communal property rights by the Thai government creates great difficulty for forest dwellers such as the Pgak’nyau. Most Pgak’nyau land, including swidden fields, forest land, pasture ground and most irrigated plots, belongs to the government and is protected under the National Parks Law, the Wildlife Conservation Law or the National Reserved Forest Law (Boonto
According to data of the National Statistics Office of Thailand, more than 70 percent of the Pgak’nyau live on public land, in National Parks, Wildlife Sanctuaries and National Forest Reserves. In other words, less than 30 percent have official rights to the land on which they live. This is despite the fact that most Pgak’nyau villages were established well before the passage of legislation that created these conservation areas.

Notwithstanding a lack of official recognition for their property, the Pgak’nyau do have their own concept of property rights. Boonto (1991) argues that the Pgak’nyau people have a strong concept of property rights which they define in terms of rules of behaviour governing access to and use of resources. He reports that the practice of three types of land rights can be observed in Pgak’nyau communities: 1) communal land rights, 2) corporate land rights, and 3) individual land rights. Each of these three types has its own rules regarding the acquisition, maintenance, and transfer of land or forest resources.

1. Communal Land Rights

Communal land rights are rights to community-held and used lands and forests. Communal lands include pa dong, or virgin forests, and pa hlaow, or bush fallow. These lands tend to be far from water sources and therefore cannot be
used for irrigated rice cultivation. No one has the right to sell or allow use of these lands by non-community residents. All villagers have the right to use communal lands for any purpose. Once any plot of communal land is abandoned, others can use make use of it.

2. Corporate Land Rights

Corporate land rights are the rights of a household and its individual members to use community held land. Corporate lands are found in pa hlaow or bush fallow located close to water sources, which a family intends to continue using as a rotational farming field. Usually, areas close to these corporate lands can also be developed or converted into irrigated, terrace fields. The intention of a cultivator to continue using the area legitimised his or her family’s right to the land. All the children of the cultivator would then also have the right to use the land or portions of it for swidden gardens. In corporate land pa hlaow, other villagers can graze their animals or gather firewood and forest products, but they cannot use it for rotational farming or irrigated agriculture.

3. Private or Individual Land Rights

Private or individual land rights are customarily held by members of the community who continuously use a piece of
land or forest and invest labour, capital, and materials into it. Private land includes home lots, orchards and irrigated fields. Private property rights extend to include land bordering the plot and forests on the headwaters of irrigated field. The Pgak’nyau concept of private property rights over land in the headwaters of an irrigated field is a subtle one, where the land is still considered communal property, but the farmer has right of control over cutting or any other active that takes place. No one in the village can use private land except for the user or group that put permanent improvements on it. Private land can be transferred from one individual to another following customary rules of inheritance. This improved land can be sold, but it has to be offered to close relatives before other villagers can purchase it.

Boonto also reports that in the case of irrigated lands, private land rights cover not only the irrigated terraced fields but also all irrigation structures such as weirs and the canals serving them. Permanent improvements on irrigated rice fields legitimise not only rights to the land, but also rights to the irrigation structures and the water itself. Water rights can be corporately or privately held. Corporate rights are held by the group that created the irrigation system, and private rights are held by a single person. Irrigated land ownership can be transferred through inheritance or sale. When ownership of irrigated land is
transferred, rights to the water, irrigation structure and use and control of bordering bush fallow are also transferred (Boonto 1991: 143-147).

Protected Areas

Protected areas are not a new concept; these areas have existed for several thousand years. Game reserves for royal hunts first appeared in recorded history in Assyria in 700 BC (Dixon and Sherman (1991:9). By BC 400, royal hunts were established in India under Ashoka (Gadgil and Guha, 1993). The Moguls reinforced this tradition in India, where the idea gained a wider currency among the ruling elite. The Normans introduced the same idea to England in the 11th century and enforced the concept of royal forests with such enthusiasm that by the reign of Henry II nearly 25 per cent of England was classified as royal hunts (Westoby, 1987).

In the modern era, protected areas are set aside to preserve the natural resources that are indigenous to an area, often thereby providing an attraction for tourism. Protected areas also protect the ecological processes that maintain these resources in as natural of a state as possible. These areas are intended not to be dominated by people, but rather, to be a place where they are encouraged to visit in order to appreciate, enjoy and experience a
natural setting, under conditions where the resources are least affected by their presence (Lamprey 1992).

The International Union for the Conservation of Nature (IUCN) advocates the preservation of a representative sample of the world's ecosystems through the establishment of protected areas (Western 1989). There are now close to 8,500 major protected areas throughout the world (IUCN 1994). These are widely distributed across continents. Worldwide, the growth in protected areas has been relatively rapid over the past two decades. Pimbert and Pretty (1995) claim that protected areas now exist in 169 countries and cover about 7,734,900 square kilometres or some 5.2 percent of the earth's land area, an area roughly equivalent to twice the size of India.

One of the most prominent forms of protected areas is the national park. Since Yellowstone was first established in the United States in 1872, the concept of national parks has been adopted by many countries (Frome, 1981). However, under the strict, original conservation guidelines of the IUCN, any human exploitation of resources is banned from national parks. Thus despite the growth in numbers, the concept of protected areas or national parks remains alien to many rural residents in different countries. National parks are particularly contentious where their designation excludes the local population from further exploiting traditional access
to resources (Nzioka 1994). These national parks are seen by the local population as catering to foreign tourism income generated by the parks (Marsh 1987). Rural people are made to feel dispossessed because most protected areas were already occupied by local residents before designation as protected areas. According to the IUCN’s figures for 1985, some 70 per cent of world’s protected areas are inhabited (Dixon and Sherman 1991). Colchester reports that some 80 per cent and 75 per cent of the protected areas in South America and Central America, respectively, have indigenous peoples living in them (1994:12).

The expropriation and exclusion of local communities who once occupied protected areas has led to increasingly severe social and ecological effects in many countries. A growing body of empirical evidence now indicates that the transfer of Western conservation approaches to developing countries has had adverse effects on the food security and livelihoods of people living in and around protected areas (Ghimire, 1992; West and Brechin 1992; Wells and Brandon 1992). On several occasions, local communities have been expelled from their settlements without adequate provision for alternative means of work and income. In other cases, local people have faced restrictions on their use of common property resources for food gathering, harvesting of medicinal plants, grazing of animals, fishing, hunting, and collection of wood and other
products from forests and wetlands. Policy and technical measures that combine protected area management with socio-economic development in surrounding "buffer" zones have often tended to be top-down, centralised, under funded and of a short-term nature (Pimbert and Pretty, 1995:5).

In recent years, governments and influential aid agencies have come to realise that national park and other protected areas cannot be managed successfully without taking into account the subsistence and natural resource management systems of local people (Ghimire 1991). In the 1970s, the UNESCO Man and Biosphere Program (MAB) promoted the concept of creating "buffer zones" between strictly preserved areas and human settlements so that the needs and aspirations of local people could also be met. However, MAB programs are generally seen as being strong in theory and weak in practice. Poole (1989) claims that MAB programs have been very biased towards conservation objectives.

In Thailand, the management of protected areas followed an approach developed by the British in India and Burma (Vandergeest 1996:260). Khambanonda claims that before 1899, most forestland in Thailand was controlled by feudal chiefs or local rulers, but after a centralisation of political affairs, control of land and protection of forests was turned over to the state government (1971:71).
Today, there are several types of protected areas in Thailand, including national forest reserves, wildlife sanctuaries, national parks, forest parks, watershed areas, biosphere reserves, botanical gardens and arboretums. However, only the first three types will be discussed here as the latter cover a relatively small land area. The three major types of protected areas in Thailand are:

1. National Forest Reserves

The National Forest Reserve Act was passed in 1964 in response to a realisation that forests in Thailand were inadequately protected under the 1941 Forest Act (Filipchuck, 1991). Refer to Appendix B for details of National Forest Reserve Act. In the first year of the new legislation, 37 Forest Reserves were designated, covering an area of 18.4 million hectares (Filipchuck 1991:15). Between 1964 and 1983, another 17.4 million hectares were added to the system (Filipchuck 1991:15). Today, National Forest Reserves cover an area of approximately 40 per cent of the national territory, while the remaining forestland in Thailand accounts for less than 25 percent. The National Forest Reserve Act has been found to be ineffective at dealing with the demand for land arising from growth in agricultural activities. As a result, the Thai government has recently
changed its forest policy by converting many of the National Forest Reserves into national parks or wildlife sanctuaries.

2) Wildlife Sanctuaries

Wildlife Sanctuaries were established under the Wild Animal Reservation and Protection Act of 1960. The Act states that the objective of a Wildlife Sanctuary is to "conserve the habitat of various wildlife species, including conservation of essential requirements such as water, food, protective habitat, nesting habitat, breeding habitat, and rearing habitat, as well as salt licks, wallows, dusting areas, and sunning areas so that wildlife may freely exist and propagate" (cited in Thoms 1995:203).

Hurst (1990) claims that from a legislative standpoint, Wildlife Sanctuaries are the most strictly protected forests in Thailand. Wildlife Sanctuaries are managed by the Royal Forest Department's Wildlife Conservation Division (WCD). There are presently 38 Wildlife Sanctuaries in Thailand, comprising 5.57 per cent of the national territory and covering an area of 18,241,144 rai or 29,186 square kilometres (WCD 1996). The WCD is also creating 31 more wildlife sanctuaries which will cover an additional of 5,829,225 rai or 9,326 square kilometres throughout the country (WCD 1996).
Location of Wildlife Sanctuaries in Thailand

### Table 3.2

**Number of Wildlife Sanctuary in Thailand from 1965-95**

<table>
<thead>
<tr>
<th>Year</th>
<th>No. of Wildlife Sanctuaries</th>
</tr>
</thead>
<tbody>
<tr>
<td>1965</td>
<td>1</td>
</tr>
<tr>
<td>1972</td>
<td>6</td>
</tr>
<tr>
<td>1974</td>
<td>10</td>
</tr>
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<td>1975</td>
<td>12</td>
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<td>1977</td>
<td>15</td>
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<td>1978</td>
<td>21</td>
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<td>1980</td>
<td>23</td>
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<tr>
<td>1983</td>
<td>25</td>
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<td>1984</td>
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<td>27</td>
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<td>1986</td>
<td>29</td>
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<tr>
<td>1989</td>
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<td>1990</td>
<td>32</td>
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<tr>
<td>1991</td>
<td>33</td>
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<td>1992</td>
<td>34</td>
</tr>
<tr>
<td>1993</td>
<td>35</td>
</tr>
<tr>
<td>1994</td>
<td>36</td>
</tr>
<tr>
<td>1995</td>
<td>38</td>
</tr>
</tbody>
</table>

Source: Wildlife Conservation Division, 1996

The WCD (1995) reports that there are presently 53,705 people in 12,099 families who live in Wildlife Sanctuaries; these families live in 411 villages and cultivate an area of 263,843 rai or 422 square kilometres. There are an additional 45,450 people who live outside wildlife sanctuaries, but cultivate a land area of 246,343 rai inside the boundaries. Most of these people who live within wildlife sanctuaries have resided in the area long before the sanctuaries were established.
3) *National Parks*

The National Parks Act was passed in 1961. This Act defines a National Park as "land preserved for protection of the environment, especially forests, wildlife, and unique scenery, which impresses the viewer as worthy of preservation in its nature state". National Parks are managed by the National Park Division (NPD) of the Royal Forest Department. There are currently 81 national parks comprising 8.13 per cent of the national territory, and 46 new parks are in the process of being established (NPD 1995). The parks are located throughout the country, although the majority are situated in the north-west and in the south. Of the 81 national parks, 26 are parks situated in northern Thailand. The establishment of national parks in Thailand began some 30 years ago. During the 1960s, only three national parks existed. However, there was rapid increase in the 1970s and 1980s, when 56 new national parks were established. Of the 81 parks, 43 were set up in the 1980s.

There are various factors explaining this growth. Firstly, the Thai government considers the establishment of national parks as the best method to prevent occupation and exploitation of forest areas by both highland and lowland swidden farmers and land-hungry migrants. Secondly, there has been a significant increase in urbanisation, particularly in Bangkok, resulting in a rising demand for recreational
facilities. The idea of protecting natural uniqueness for public education and recreation reflects American models which were brought by Thai forestry students who had been sent to the United States for studies in the late 1960s (Pragtong, 1993). Lastly, media and academic institutions have become steadily conscious of the importance of nature conservation and have acted as important pressure groups.

Table 3.3

Number of National Parks from 1962

<table>
<thead>
<tr>
<th>Year</th>
<th>No. of National Park</th>
</tr>
</thead>
<tbody>
<tr>
<td>1962</td>
<td>2</td>
</tr>
<tr>
<td>1963</td>
<td>3</td>
</tr>
<tr>
<td>1966</td>
<td>4</td>
</tr>
<tr>
<td>1972</td>
<td>7</td>
</tr>
<tr>
<td>1974</td>
<td>9</td>
</tr>
<tr>
<td>1975</td>
<td>13</td>
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<tr>
<td>1977</td>
<td>14</td>
</tr>
<tr>
<td>1979</td>
<td>16</td>
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<td>1980</td>
<td>23</td>
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<tr>
<td>1981</td>
<td>40</td>
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<td>1982</td>
<td>45</td>
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<td>1983</td>
<td>47</td>
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<td>49</td>
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<td>1986</td>
<td>52</td>
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<td>1987</td>
<td>55</td>
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<td>1988</td>
<td>59</td>
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<td>1989</td>
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<tr>
<td>1990</td>
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</tr>
<tr>
<td>1991</td>
<td>74</td>
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<tr>
<td>1992</td>
<td>77</td>
</tr>
<tr>
<td>1994</td>
<td>79</td>
</tr>
<tr>
<td>1995</td>
<td>81</td>
</tr>
</tbody>
</table>

Source: National Park Division, 1995
Figure 8 Map of National Parks in Thailand

The rapid growth of national parks may be good for urban dwellers because it provides more recreation facilities. But it has created more economic hardship for forest dwellers whom rely heavily on natural resources surrounding their communities. This is because national parks have strict laws and prohibited forest dwellers to live, cultivate or use natural resources within the national park territory. Some of national park rules and regulations are laid out in Table 3.4. Refer to Appendix C for further details of National Park Act.

Table 3.4

<table>
<thead>
<tr>
<th>National Park Laws</th>
</tr>
</thead>
<tbody>
<tr>
<td>Offence</td>
</tr>
<tr>
<td>Collecting rocks</td>
</tr>
<tr>
<td>Collecting orchids, flowers, Or leaves</td>
</tr>
<tr>
<td>Defacing property</td>
</tr>
<tr>
<td>Carrying weapon</td>
</tr>
<tr>
<td>Hunting</td>
</tr>
<tr>
<td>Using fireworks or Explosives</td>
</tr>
<tr>
<td>Making load noise</td>
</tr>
<tr>
<td>Littering</td>
</tr>
<tr>
<td>Destroying signs</td>
</tr>
<tr>
<td>Not obeying park employees</td>
</tr>
</tbody>
</table>

The rapid expansion of different types of protected areas in Thailand, as shown in Table 3.2 and Table 3.3, was considered by Lekagul and McNeely (1977) to be "excellent" progress in the development of an "outstanding" system to preserve the remaining forests in Thailand. However, strict controls on the use of natural resources in protected areas have created hardship for people who reside in them. According to the RFD, 85 percent of protected areas in Thailand have a local population living within them (RFD 1995), and success in addressing conservation concerns has come at the expense of the approximately 6 million people live in protected areas (Smanchit 1993). Vandergeest (1996:267) suggests that their concerns can be addressed by declassifying land which is claimed and used by households, issuing land titles to claimants and providing collective use and management rights inside protected areas.
CHAPTER IV

RESEARCH METHODOLOGY

This Chapter details how this study was undertaken by describing the process, setting and methodology of the research. The first section describes how the research sites and key informants were chosen. The second section provides a brief description of the research sites, and the last section discusses and describes the different techniques used to gather data.

Research Process

Research for this study was conducted in the province of Chiang Mai in northern Thailand. This province was selected as the research site because it has the largest Pgak’nyau population in Thailand. Statistics from the Tribal Research Institute show that over 30 percent of their total population reside in Chiang Mai Province. Data was collected for this study in Thailand from May to September 1996, and I also occasionally went back to the villages during the period from September, 1997 to April, 1998.

During my field research in 1996, I spent the first two weeks gathering secondary data in libraries and government offices in both Bangkok and Chiang Mai, the provincial capital of the same name. After completing secondary data
collection, I spent over one week visiting many Pgak'nyau villages in Chiang Mai Province. Finally, I decided to choose two Pgak'nyau villages. The first village is called "Sunlight" and it is located in "Old National Park" (ONP). The second village is called "Moonlight" and it is located in "Old Forest Reserve" (OFR).

Sunlight was selected as a village in the study because of its location in one of the oldest national parks in northern Thailand. Forest surrounding Sunlight was declared the ONP in 1972. The ONP is the second oldest national park in northern Thailand and is the first one established in Pgak'nyau land. In comparison, Moonlight was chosen as the second research site because it is located a national forest reserve where rules and regulations are more flexible. Forest surrounding Moonlight was declared Old Forest Reserve (OFR) in 1968. I assert that a national park will affect the traditional ways of life of the Pgak'nyau people more than a national forest reserve. I believe that the OFR has affected the traditional lives of people in Moonlight to a far lesser degree than the longer standing ONP has affected Sunlight.

In addition to their designation as a national park and national forest reserve, the two research sites were also chosen to provide representative examples of villages of different size. Sunlight was selected as a case study of a

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4 The name of the villages and the national parks are pseudonyms.
small Pgak’nyau village, while Moonlight was chosen as a case study of a larger Pgak’nyau village. At the time of this research, there were 21 households and a total population of 113 persons in Sunlight, while Moonlight had 81 households with a total population of 406 persons (see Appendix D for further details). I assert that the size of a village has a direct effect on the amount of assistance provided by the government. Most government and non-government agencies tend to focus their attention and services on larger villages because of the greater numbers of people that will be benefited.

I also selected the two villages because I had prior existing relationships with people in Sunlight and Moonlight. I had prior connections with village leaders in Sunlight and had come to know many of them when I worked as a research assistant on a project at Chiang Mai University from 1987 to 1990. I also knew the people of Moonlight well because the village had been the site of field research for my Masters thesis. Therefore, Sunlight and Moonlight were not unfamiliar to me and I already had some general views or basic information on the two villages. I spent approximately forty days in each village, collecting data through in-depth interviews, participant observation and making land use maps.
The Field Setting

This study focuses on two highland Pgak’nyau villages in Chiang Mai Province. Sunlight is located approximately 80 kilometres south west of the city of Chiang Mai, while Moonlight is located approximately 70 kilometres west of Chiang Mai. Sunlight and Moonlight are approximately fifty kilometres apart. The area surrounding the two villages is mountainous, with limited level land found only in river valleys. Sunlight is 1100 metres above mean sea level, while Moonlight lies at an altitude of 1000 metres.

It is quite difficult to travel to Sunlight, particularly during the rainy season, because the road is a dirt one. In fact, the road to Sunlight is more accurately described as a trail dug by villagers to connect their village to the main road. There is no car or pickup truck in the village. There is also no bus service to Sunlight, so villagers must walk to the nearest Thai town where they can catch a minibus to the district centre. Like most Pgak’nyau villages in the Old National Park (ONP) area, there is no electricity or telephone service in the village.

It is easier to access Moonlight because the road to the village is paved. This paved road was only built in the summer of 1997 by the Accelerated Rural Development Office (ARD). There is no bus service to Moonlight, but it is quite easy to travel to and from the village because many people in
Moonlight have trucks and almost daily someone will be driving to nearest Thai town. Moreover, there are many Pgak’nyau and Hmong villages beyond Moonlight, and vehicles from those villages must pass through Moonlight in order to get to the Thai town. One can easily request a ride from any truck leaving or passing Moonlight in the mornings. Life in Moonlight is more convenient than in Sunlight, because electricity was installed in Moonlight in 1980 and a public phone became available in 1996.

Research Methodology

The research methodology used in this study is qualitative case study combined with secondary data analysis. Qualitative case study research provides “intensive holistic description and analysis of a bounded phenomenon such as a program, an institution, a person, a process or a social unit” (Merriam 1988:xiv). The qualitative research method used in this study attempts to provide a “thick description” of the indigenous resource management system of the Pgak’nyau people in northern Thailand.

There are varying techniques for data gathering in the field of qualitative inquiry, but Peshkin and Glesne report that the main data gathering techniques of qualitative research are “participant observation, interviewing, and
document collection" (1992:24). The following research techniques were employed for my data collection:

1. Semi-Structured Interviews

Semi-structured interviews were used to compile information from a sample of informants in two communities. An interview schedule was used to collect data on social groups, activities, property rights, social status, social stratification, economic structure, roles of individuals in the community, forest practices and classification, and land use. It was also used to collect data on settlement history and changes in the village with respect to structure, activities, social relationships, rituals, ceremonies, world views, resource utilisation and management, and relationships with national parks.

All the interviews were semi-structured and informal. Interviews lasted from half an hour to three hours, and were generally longer with village chiefs or elders. In each village, I interviewed twelve key informants, six male and six female. The informants or respondents were selected to include elders, adults and youth. In both villages, four informants were chosen from each of the three generations. The chief of Moonlight is an elder, while the chief of Sunlight is representative of the adult generation. Informants' socio-economic status in the village was another
criteria for their inclusion in this study, and both wealthier and poorer families were interviewed. In addition to the twenty-four key informants, I gathered additional data from speaking informally to other people in both villages.

Interviews were conducted in the Pgak'nyau language following a basic set of prepared questions. Sometimes prearranged times and places for interviews were suggested. However, for the most part interviews took place in an informal setting, in the respondent's home or another place convenient to him or her. On some occasions, interviews took place in rice fields while informants worked, and I would assist them while conducting the interview. I used a tape to record most conversations with informants and I also took short notes on some critical issues.

Most interviews took longer than I expected because informants often asked me questions, which varied from inquiries about my family and personal background to questions about development and government conservation policy. I carefully answered their questions, then tried to bring them back on topic. Cole believes that "the informant must be given a certain degree of authority to determine the events to identify for discussion or further exploration" (1991:201-205). It was important for me to respect and give informants a certain degree of authority to say what they wanted to say or discuss the topics they wanted me to know
about, even though some of the information I received from them was irrelevant to my study. On some occasions, I would change the topic when I saw the informant felt uncomfortable discussing the subject-matter. I had to be sensitive to any reluctance to discuss certain topics, because in Pgak’nyau culture it is inappropriate to push people into a position where they finally have to refuse something or say no.

2. Participant Observation

Qualitative methods rely substantially or partly on “participant observation”. Atkinson and Hammersley report that the main features of participant observation are as follows:

a) whether the researcher is known to be a researcher by all those being studied, or only by some or by none,
b) how much and what, is known about the research by whom,
c) what sorts of activities are and are not engaged in by the researcher in the field, and how this locates her or him in relation to the various conceptions of category and group membership used by participants,
d) what the orientation of the researcher is; how completely he or she consciously adopts the orientation of insider or outsider (1994:249).

As a participant observer, I introduced myself to people in village so that they knew who I was and what I was doing in their community. I used the participant observation technique to collect data on social groups, social relations, village activities and traditional ceremonies. I observed and participated in village activities, such as ceremonies,
meetings or agricultural activities, in order to discern changes in villagers' social and cultural patterns as a result of the national park.

I observed people from the community participating in various activities, from conducting formal monthly meetings to informal interactions in the community. My "observer" status provided an opportunity to learn about peoples' approach to their problems, their participation in the group meetings and programs, and their capacity for decision-making and initiative.

While conducting participant observation, I was considered both an "insider" and an "outsider" to people in the village. As a member of the Pgak'nyau people, I was considered an "insider", a status which provided both advantages and disadvantages in conducting field research. I gained some advantage because as an "insider" it took me less time to get to know individuals in the village and people were less wary with me than they might have been with someone who was not Pgak'nyau. This greater sense of trust allowed me to gain more extensive and meaningful information from my informants and people in the village. As an "insider", it was also easier for me to understand what people said and meant because we communicated directly in the Pgak'nyau language.

However, being an "insider" also proved to be a disadvantage in learning about and understanding some issues
in the community. As an "insider", people in the village expected a lot from me. They expected me to already know or understand what was going on in their community. As a member of the Pgak’nyau people, I had a general understanding of our patterns of thought and behaviour, but as a researcher, I needed to ask questions to confirm my knowledge or understanding of the issues. However, I did not always easily get answers or confirmation, because people expected that I should know the answers. According to Pgak’nyau culture, it is inappropriate for me to ask questions for which I already "know" the answer. And I should also not repeatedly pose the same question to informants when I had already received an answer from an earlier person. To ask questions when I already know or have received an answer is considered insincere to people in the village.

As a researcher, I was also considered to be an "outsider" in the community. The way I talked and acted was probably different from people in the community because I have spent most of my life studying or working outside Pgak’nyau communities. As an "outsider", I still needed to reassure people to some degree that I could be trusted when I first arrived in the village. For example, on occasion I had to dispel the assumption that because I was educated, I had to be working for the national park or the government. This
reassurance was necessary because villagers would have been unwilling to be so open with government officials.

But once trust was established, being an “outsider”, also worked to my advantage. People were willing to participate in the research because they wanted to share their struggle with me and others from the outside world. Also, my more distant perspective has allowed me to more clearly see and analyse developments in Pgak’nyau communities by drawing comparisons with situations in the contemporary world.

C. Secondary Data Collection

In order to understand the changes in Pgak’nyau society, I collected data from secondary sources. This secondary data was collected from materials, books, articles and documents found in the villages and in the libraries and government offices of Thai towns.

In the villages, I collected all base line data from the village chief or village committee members. The secondary data from the villages included lists of people in the village, land use and land ownership, education, forest management rules and regulations. Fortunately, both villages were in the process of documenting and putting forth land claims to the Thai government. Therefore, the villages already had readily accessible basic data on their land use,
and had already constructed sample land use maps and three-dimensional models.

I also spent substantial time in libraries and government offices collecting secondary data on the Thai government’s resource management system, for example, park legislation, forestry policies, land use maps and aerial photos.

D. Mapping

I spent over three days in each village conducting a survey on natural resource utilisation and management within village boundaries. I enlarged a topographic map from an original scale of 1:50,000 to a scale of 1:10,000 scale, then roughly sketched the land use pattern in each village. During the survey, people in the village assisted me by pointing ownership, boundaries and land use of the fields. Mapping facilitated the analysis of land use patterns in each village. It allowed me to confirm the information on land use and ownership that I had received from the chiefs or village committees. In many cases, families claimed to have more land than they actually had. The land use map made it easy for me to see and understand how villagers lay claim to land. Mapping also helped me to understand the conflicts and problems in natural resource utilisation and management in each village.
E. Group/Collective Analysis

After completing data collection, I used group/collective analysis to examine the data. The participatory approach “attempts to present people as researchers themselves in pursuit of answers to the questions of their daily struggle and survival” (Tandon 1988:7 as quoted by Hall 1993:xiv). I held informal meetings with a small group of people from the community to collectively analyse the data. Group participants included the chief, elders council, women and youth. In these participatory analysis sessions, I posed questions to find out how they responded to particular data or issues.

Group/collective analysis was a very important part of processing the data because it allowed people in the community, who are the victims of conservation policies, to participate in the analysis of their own problems. Their inclusion in data analysis gave me a better understanding of how they interpreted and coped with issues in the community and how they felt their problems could be resolved.
CHAPTER V

RESOURCE USE AND MANAGEMENT SYSTEM

This chapter describes and discusses contemporary patterns in the use and management of resources amongst the Pgak’nyau in Sunlight and Moonlight. Four main topics will be discussed: forest use and management, land use and land tenure, water utilisation, and the organisation of labour.

Forest Use and Management

Most Pgak’nyau people in Thailand are forest dwellers and our lives depend heavily on our surroundings. Forests provide nearly everything for us, from food, fuel, housing, medicine and recreation, to social, religious and cultural identity. In order to survive harmoniously within the forest environment, the Pgak’nyau have developed rules and regulations to manage and use forests. This section will describe and discuss the contemporary situation of forest use and management amongst the Pgak’nyau under four sub-sections: forest management organisation, forest classification, forest utilisation, and access to forests.
Forest Management Organisation

In the past, the Pγak’nyau had a strong forest use and management system because each village had its own organisation which managed and controlled the use of forests within the village territory. There was little interference from the government in managing forests within village boundaries. Rather, as Boonto (1991) describes, forests were managed by two fundamental units of Pγak’nyau social organisation: the community and the nuclear family household.

The most powerful forest management organisation in each Pγak’nyau community was the council of elders or the “pga mi pga pgâ”. The council of elders is a traditional, informal institution consisting of elders who are deemed to be competent advisors in community affairs (Boonto 1991:71). One member included on the council of elders is the “hĩ hko”, the traditional chief who is either the founder or the successor of the founder of the village. The “sā pgâ”, the elected village chief who represents the authority of the Thai government, is another member of the council of elders. In many Pγak’nyau villages, the hĩ hko and the sā pgâ is the same person. The remaining members of the council of elders are the heads of household most respected by people in the
village. Normally, there are four to ten people on the council of elders, depending on the size of the village.

The council of elders acts as the manager of political affairs in the community, whose function includes settling disputes and trying to bring about consensus on important matters such as organising communal work (Boonto 1991:72). In the present day, political activities are officially the responsibility of the sā pγâ, but he does not take action on his own without the approval of the council of elders.

Today, the council of elders has lost most of its authority to the forestry department in managing the use of forests surrounding their village. However, the council still exists and plays an important role in preserving and protecting the remaining forests. The council of elders still exerts power in protecting forests from the exploitation of outsiders. This is because villagers cannot always count on the RFD to look after surrounding forests, often due to a shortage of personnel in the Department.

During the past ten years, many Pgak’nyau communities have set up a new structure for organising forest management. This new structure brings together educated, young people and village elders, in a network of villages located in the same watershed or district. Villages in the network work together on forest management issues, particularly in responding to outside views that the Pgak’nyau are part of a monolithic
group of "hill tribe" people who are responsible for destroying forests. Currently, several indigenous, forest management networks are active in Pgak’nyau villages in Chiang Mai Province, for example, the Highland Conservation Group, the Mae Wang Watershed Network, and the Highland Watershed and Wildlife Conservation Club. These organisations will be discussed in further detail in Chapter 7.

Forest Classification

Officially, all forests within the boundaries of Sunlight are considered conservation forests under the National Park Act, while forests in Moonlight are classified as conservation forests under the National Forest Reserve Act. Legislative classification aside, Santita (1996) reports that indigenous forest classification also differs from scientific classification, which is based on land and soil characteristics. The Pgak’nyau have our own system of classifying forest lands, one that is based on altitude, geographic and physical location, or usage.

- Altitude Classification

Prasert (1997:54), a Pgak’nyau researcher, documented the Pgak’nyau classification of forests according to altitude. Forests were broadly classified into two main categories: kau bgei and k’ne. Kaù bgei is found at lower
altitudes. Soils in the kaù bgei level are quite dry and there are many small rocks on the ground. Kaù bgei subdivides into hpaĩ hkò, which is equivalent to dry dipterocops, and kaù bgei hkò, which is mixed decidous forest.

K’ne which is located at a higher altitude than kaù bgei, has richer soils with more moisture, and as a result, trees are bigger. K’ne divides into the three sub-levels of k’ne hkaù htì, k’ne hpa and k’ne mû. K’ne hkaù htì is located in the lowest altitudes of k’ne, and depending on the area, is often pine forests. Mid-level k’ne hpa consists of tropical rain forests. And k’ne mû, which is located at the highest altitude, consists of hill evergreen forests.

According to classification by altitude, Sunlight is located in k’ne hkaù htì, while Moonlight is located in between k’ne hkaù htì and kaù bgei. Trees in these two villages are quite different from each other because of their location at different altitudes. Various kinds of trees are found within the territories of these two villages, however, trees surrounding Sunlight are dominated by sei (trees in the castanopsis family), while trees surrounding Moonlight are dominated by pine trees.
Human activities, particularly swidden agriculture, have had high impact on the species of trees in these two villages. Swidden farming created new type of forests for the areas. In Moonlight, pine trees used to cover large areas in the valley. However, pine trees are rarely grew back up after land had been used for swidden agriculture, and they were replaced by other kinds of trees.

Even though, the two villages are located at different altitudes, people can access similar forest products. This is because the territory of these two villages cover areas of both kaù bgei and k’ne. In both villages, kaù bgei is found in the east of the village, while k’ne is located in the west. The altitude of the territory of these two villages ranges from approximately 700 to 1400 metres above mean sea level.

- Geographic and Physical Location Classification

Pgak’nyau people also classify forests according to its geographic and physical location. According to Narintarangkul (1996), Pgak’nyau in the Mae Wang watershed classify forests into seven types (see Table 5.1).
Table 5.1
Pgak’nyau Forest Types in Mae Wang Watershed

<table>
<thead>
<tr>
<th>FOREST TYPE</th>
<th>CHARACTERISTIC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Village forest</td>
<td>Forest close to the village, used for various subsistence uses.</td>
</tr>
<tr>
<td>Moist forest</td>
<td>Moist forest is described as being in the form of “a green frog incubating its eggs”, in [Pgak’nyau] known as [“dei mû be”]. Such forest is surrounded by mountains, and protrudes at the centre somewhat like the back of a turtle or an incubating frog. Land underlying such forest is fertile with year-round moisture. Water seeps out at the edge of this forest to form springs and small pools, serving as the source of streams. [Pgak’nyau] believe that the spirits of such forests are particularly fierce, and few dare establish settlements or fields in these areas.</td>
</tr>
<tr>
<td>Head of springs</td>
<td>Forest at the head of springs known as [“nû̀ oô roô”]. This is similar in many ways to the first type of forest, moist and cool. As in the first case, few dare to touch it due to fear of resident spirits.</td>
</tr>
<tr>
<td>Head of fields</td>
<td>Forest at the head of swiddens and wet rice fields, known as [“hti hkwâ hki”]. This forest is protected by the owners of adjacent fields, who see its value in preventing soil erosion damaging to cultivation. It is also seen as the resident of water spirits, whose departure with cutting of the trees would lead to drying up of water sources needed for farming.</td>
</tr>
<tr>
<td>Surrounding Salt licks</td>
<td>Forest surrounding salt licks, known as [“mau poo”]. This forest also has a resident water spirit, with areas of standing water year-round. It is usually contains large trees and is home to much wildlife. [Pgak’nyau] are also afraid of spirits in this type of forest and prefer to leave it intact.</td>
</tr>
<tr>
<td>Village burial area</td>
<td>Burial forests are reserved as a serene resting place for the dead. Any disturbance of such forest is believed to cause trouble for the spirit of the dead, and also to their descendants living close by. As a result, this forest is carefully conserved.</td>
</tr>
<tr>
<td>Mountain pass forest</td>
<td>This forest is known as [“tû dei dô”]. Located in mountain passes, such forest is believed to be a pathway for spirits and is hence left alone.</td>
</tr>
</tbody>
</table>

- Usage Classification

Besides classifying forests by the altitude and physical location, the Pgak’nyau also classify forests according to the purpose of its usage. This classification shares some similarities with the RFD’s system, but there are some differences as well. According to the RFD, all forests in the territory of Sunlight and Moonlight are considered to be conservation forests. However, the Pgak’nyau classify forest usage into three main categories: conservation forests, community forests and forest fallow. These categories, or rather concepts, were not defined by regulations or delineated boundaries, but rather, were based on time-honoured, accepted practise. However, in response to recent conservation pressures and the need to establish land rights, the Pgak’nyau have begun to document these concepts and to develop land use maps to increase transparency in terms that can be understood by the RFD and other lowlanders.

1. Conservation Forests

Conservation forests comprise the largest portion of the forests within the villages under study and account for more than half the village territory in both Sunlight and Moonlight. Conservation forests are very important to Pgak’nyau communities, often because the source of streams or creeks are found within its area. Villagers share a common
understanding that they should not disturb or cultivate in
this type of forest. People may gather forest products such
as bamboo shoots, mushrooms, honey, or fruits, but they may
not cut trees or hunt. Accepted restrictions on hunting in
Sunlight and Moonlight have meant that conservation forests
function as wildlife sanctuaries.

Conservation forests in both Moonlight and Sunlight are
mainly located in the western part of the villages (see
Figures 9 and 10). However, conservation forest do not
necessarily have to be in the same area and can be
distributed anywhere within the village territory. Many
physical locations, including those described by
Narintarangkul in Table 5.1, are considered to be
conservation forests. The Pgak‘nyau will not disturb trees in
moist forests and those surrounding springs, heads of fields,
salt licks, burial areas and mountain passes. Taboos are
strongly held, and for example, disturbing burial grounds is
believed to bring bad luck to the intruder. It is also
particularly important for the Pgak‘nyau to not disturb
forests surrounding springs or headwaters because these
waters provide the main source of moisture for crops.
Figure 9 Forest Classification in Sunlight
Figure 10 Forest Classification in Moonlight
In addition to these physical locations, “umbilical cord” forests, or *pgà dei pau*, are considered to be another conservation area. Traditionally after a child was born, the umbilical cord or *dei pau* was cut and placed in a bamboo container. The container was then tied to a tree in the *pgà dei pau*, which was usually located near the village. The *dei pau* tree had to be a strong one which had never peeled or cut, and the tree was for one individual not shared by others. The Pgak’nyau believe that peoples’ souls reside in *pgà dei pau* and if trees are cut down in this area, the owner of the umbilical cord will get sick. It is a taboo amongst the Pgak’nyau to cut down *dei pau* trees and one will be fined for cutting down the trees of other people.

2. Community Forests

Community forests are forests surrounding the village, which are used for multiple purposes. People in the village share a common understanding that everyone in the community can use this area for various purposes, such as collecting vegetation, construction materials or wood for fuel. Community forests are also a place where domestic animals, usually cattle, are raised.

People in Moonlight have more freedom to use community forests than people in Sunlight, because of the latter’s location in the Old National Park. Even though, people in
Sunlight have a common agreement that villagers can use this type of forest, but they have to be very careful when and where to use its resources. Otherwise park rangers may charge them for illegally cutting trees in the park.

3. Forest Fallow

Forest fallow is normally located not far from the village. In the past this forest was used only for swidden agriculture, however in the present day, the use of forest fallow is changed. Much of the area has been converted to irrigated fields and fruit orchards, reverted back to jungle. Large areas of swidden lands in both Moonlight and Sunlight has been abandoned over the past ten years and trees have grown back. In the case of Sunlight, where most people still practice swidden agriculture, forest fallow can no longer be used for agriculture because the land is considered to be forest by the national park. In Moonlight, up to ten percent of doo lā or forest fallow has been converted to irrigated lands or fruit orchards.

Forest Utilisation

Pgak’nyau people in Sunlight and Moonlight grew up regarding forests as an integral part of their lives. Forests surrounding their villages were the source of their food, as well as their herbal medicine, housing and self-employment.
opportunities. Pgak'nyau people do not see forest as simply trees but rather, they see forest as the main means of survival. Though most Pgak'nyau families have a piece of terraced land, they still need to protect forests because their main source of water for crops comes from forest streams.

- **Housing**

It is very common that forest dwellers are traditionally dependent on the forest for building their houses and for their agricultural implements. As forest dwellers, the Pgak'nyau people also fall into this category. In the past, all materials for building Pgak'nyau houses were collected from the forest. This included poles, crossbeams, roofs, walls and floors. Larcharojna describes a typical house of the Phlong, a sub-group of Pgak'nyau in northern Thailand:

> The [Phlong] house were built mainly of bamboo; rooms were thatched from grass and house posts were cut from several kinds of trees. (1975:22)

Pgak'nyau people used cogon grass, lalang, board, rattan leaves or other tree leaves for roofing, depending on geographic location (see Figure 11). Pgak'nyau who live at different altitudes use different types of tree leaves. Rattan leaves are only available in the jungle. La hte (leaves of tree in dipterocarpus species) are available in forests at lower altitudes, such as Dry Dipterocops Forest or
Mixed Deciduous Forest. Cogon grass is available in higher altitudes and is probably the best grass for roofing in the highland area because it can last up to three or four years.

In the past, people in Sunlight and Moonlight used cogon grass for roofing because it was widely available in the area. They would collect cogon grass in December or January after rice harvesting season and before the dry season when the grass would become too dry. However, today most people have replaced cogon grass roofs with tin or cement tiles because these materials last longer. Cogon grass is still used for huts in rice fields and for roofing by those who cannot afford man-made materials, but its use is less widespread. An informant in Sunlight told me that cogon grass is now scarce. He claims that reforestation by the RFD is the main reason behind the decreasing availability of cogon grass. Since the reforestation project was implemented, a new grass called "communist grass" has spread widely in hill areas. Cogon grass can grow well only in open spaces and it cannot compete with communist grass. Moreover, the area where cogon grass grows needs to be burned every year during the dry season so that new shoots can come up again and now fires are restricted in park areas.
Figure 11 Diverse Roofing Materials
Most people in Sunlight and Moonlight still use forest materials to construct their homes, and the use of cement or concrete is strictly limited. However, building a house is no longer easy for Pgak'nyau people who live in national parks. An informant in Sunlight reported that it is very difficult to gather materials for house construction. Most materials are still available, but they are not accessible. People have to be very careful when gathering materials for housing because park rangers may charge them for cutting trees. In their observation, park rangers usually only visit their village during the day, so people in Sunlight build their new houses at night when it is safer to do so. Park officials urge people in Sunlight, as well as other highlanders in the park, to use concrete for house construction, but most people cannot afford to buy it.

In Moonlight, it is relatively easy for people to cut trees for house construction because the village has not yet been officially declared under the Royal Gazette to be part of a national park. Moonlight continues to be regulated under less stringent national forest reserve legislation and foresters from the district forestry department rarely visit the village. However, people who are logging for house construction still have to be very careful, as people in neighbouring villages have been charged for illegal logging. To date, no one Moonlight as been so charged.
Food

The forest is an important source of food for the Pgak'nyau people. Some of the foods they gather for consumption include mushrooms, bamboo shoots, rattan shoots, wild fruits and wild vegetables. Thirty years ago, the Pgak'nyau relied heavily on food from forests. The rich vegetation and low population density made it relatively easy for people to gather enough food for sustenance.

In Sunlight, there is no grocery store in the village and families still rely on food from the forest. Swidden fields and permanent gardens provide an additional source of food and occasionally, people will go to nearby Thai towns to buy some food items. In contrast, most people in Moonlight no longer rely on forest products for food. Their main source of food, with the exception of rice, comes from domestic crops they grow in permanent gardens. There are also seven small grocery stores in the village and most of them do steady business. Many people in Moonlight rely heavily on food from grocery stores. One of my key informants in Moonlight told me that the village is overcrowded and not enough food can be gathered from the forest. Moreover, most people are too busy with growing and tending cash crops year round, and they do not have time to visit forests for food gathering.
- Firewood

All people in Sunlight still use wood for heating and cooking fuel, because no electricity is generated in the village. There is more diversity in Moonlight as electricity has been available in the village for almost twenty years. Three families in Moonlight have gas stoves and a fair number of them have electric rice cookers, but most people still use wood for fuel in cooking.

Firewood can be collected in many places within the village territory. However, not all trees are good for fuel. The Pga'k'nyau in Moonlight and Sunlight prefer using only some species of trees, for example, qa' lá hte (trees in the dipterocarpus family) and sei (trees in the castanopsis family). Wood from these trees are good for cooking because they last longer and do not produce much smoke. Pine wood is not used for fuel because it contains too much oil and creates a lot of smoke while cooking. However, pine is used as a starter for stove fires because it burns easily. Bamboo is not used for cooking because it burns too fast. The Pga'k'nyau prefer using dead trees for fuel because the wood is dry and can be used right away. Many people also collect fuel from poles and branches that have been used for fencing in old swidden fields. Firewood is collected during the dry season and stored under houses for use year round.
- Herbal Medicine

As described in Chapter Two, the Pgak’nyau were experts in herbal medicine and they played a major role in providing medicine for the northern Thai state. Their use of herbal medicine is decreasing in the present day due to the availability of modern medicines. However, most people in the villages still have some basic knowledge of using plant or herbal medicines. For example, people in Moonlight and Sunlight still use hso hpoo kweř (sub sua in Thai) to stop bleeding by chewing it and then putting it on top of the wound. Most elderly people still know and recognise the plants that are used for herbal medicine, but many young people do not. As a result, village elders are concerned that indigenous knowledge of plant and herbal medicine will be lost because young people do not take up the knowledge.

- Other Materials

Besides using the forest for housing, food, fuel, and herbal medicine, the Pgak’nyau also used to heavily rely on forest products to produce household items such as baskets, mats, agricultural tools and etc. However, now people find it easier to buy these items from Thai markets, and for example, bamboo or rattan baskets have been replaced by plastic bags and containers. Traditionally, people stored water in hti tê (bamboo bottles), but these have mostly been replaced with
metal coolers or plastic containers. Most people still use woods for fencing, but a fair number of wealthier people have changed their fences to barbed wire.

**Access to Forests**

The time people spend in forests and the level of their activities are changing in Sunlight and Moonlight. These changes reflect economic developments in the village and provide some indication of the status of individuals in community. New agricultural activities and a restructuring of the labour force have affected the levels of forest activities. Wealthier families are less occupied by forest activities, while poorer families still spend substantial amounts of time gathering products from the forest. In Sunlight, the gap between the wealthier and poorer is not so wide, and most people in the village still spend time gathering forest products. However, the gap between rich and poor families in Moonlight is wider, and this gap is reflected in the lesser amounts of time that more prosperous families spend in collecting forest products. For example, all families in Sunlight still collect their own firewood. In contrast, richer families in Moonlight, who tend to be occupied with tending their cash crops, will often dispense with lower value, time-consuming forest activities and purchase their firewood from poorer families.
Traditionally, it was the duty of women to collect wood for the family. But when firewood became more marketable, it became males from poorer families who did most of this work. In the past, most families in Moonlight spent time gathering forest products both for household consumption and for sale in Thai markets. Today, this is done mainly by poorer families, who also sell the gathered products to other people in the village. These changes in forest labour activity have affected social relations and social stratification within the community.

Land Use and Management

The Pgak’nyau people are agrarian and their culture is mainly based on the lands they cultivate. Land is a very important part of Pgak’nyau identity; it keeps Pgak’nyau culture strong. Pgak’nyau communities have developed rules and regulations to manage and control the use of their lands. Some rules and regulations are changing in order for people to cope with changes which comes from the outside world. This section will describe and discuss the changes in land use and land tenure system in the villages under study.
Figure 12 Sunlight Land Use Map
Figure 13 Moonlight Land Use Map
Figure 14: Terraced Fields
Land Use for Agriculture

There are many ways in which land is used in Pgak'nyau society. In the study area, land used for agricultural purposes can roughly be classified into three main types: irrigated land, permanent gardens or orchards, and swidden land.

1. Irrigated Land (hsì)

Keen describes irrigated land as land that has been cleared of timber and other obstructions, levelled, and had a bund (mud wall) built around the perimeter of each field to dam and retain water at a desirable level (1983:294). There are two sub-types of irrigated lands: hsì hti bo, where the fields receive water from a canal or ditch, and hsì hti qai, where the water supply comes only from rain. Both hsì hti bo and hsì hti qai are found in Sunlight and Moonlight. Most of these two villages' fields are located in a river valley, because the surrounding area is mountainous with little flat land. Most irrigated lands in the villages are hsì hti bo, but the fields are also heavily dependant on water from rainfall. Water from weirs and irrigation systems alone is not enough to supply crops.

Most irrigated lands in the villages are terraced lands created in response to the topography. Irrigated land is considered by the Pgak'nyau in Moonlight and Sunlight to be
the most valued type of land use. In these two villages irrigated land is the main source of rice and vegetables grown for food, and it is considered to be an indicator of the wealth of individual families. The more irrigated lands a family owns, the wealthier the family is. Irrigated land is also valued because the government unofficially recognises these lands to be under permanent use. That is, even though a family may not possess ownership documents, the cultivation of permanent fields in forest areas is unofficially acceptable. Most people in both Sunlight (90 per cent) and Moonlight (89 per cent) have at least a small piece of irrigated land.

2. Permanent Gardens (tà soò laû)

Traditionally, permanent gardens were used to grow domestic vegetation such as fruits, vegetables and flowers. This included growing fruit trees such as mango, jack fruit, banana, tamarind, papaya, lime and lemon, and vegetables such as chillies, lettuce, tomatoes and lemon grass. Traditionally, most permanent gardens were located close to the house or within the household compound.

There is a total of 31.25 hpà si (2.2 hpà si = 1 acre) of permanent gardens in Sunlight, with the average size of 1.49 hpà si per household. In Moonlight, there are a total of 678.25 hpà si of permanent gardens, with an average size is
8.48 ʰ𝑝ᵃ ˢⁱ per household. The average size of permanent gardens in Sunlight is small because expansion is limited by national park regulations. However, people in Moonlight operate under national forest reserve regulations and do not have to contend with such limits.

Table 5.2

A Comparison of Permanent Garden between Moonlight and Sunlight

<table>
<thead>
<tr>
<th>Village</th>
<th>Total Permanent Garden (ʰ𝑝ᵃ ˢⁱ)</th>
<th>Average per Household (ʰ𝑝ᵃ ˢⁱ)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sunlight</td>
<td>31.25</td>
<td>1.49</td>
</tr>
<tr>
<td>Moonlight</td>
<td>678.25</td>
<td>8.48</td>
</tr>
</tbody>
</table>

2.2 ʰ𝑝ᵃ ˢⁱ = 1 acre

3. Swidden Land

As discussed in Chapter Two, swidden agriculture is one of the most important agricultural practices amongst the Pgak’nyau in northern Thailand. On swidden land, people grow not only rice, but also a variety of other crops. Swidden land has served as family gardens for the Pgak’nyau for centuries, and they have grown subsistence crops such as corn, beans, pumpkin, chillies, cassava, taro, garlic, ginger, and onion in these fields.
Most people in Sunlight (62 percent) still practise swidden agriculture. However, the average size of swidden land per plot has decreased rapidly during the past ten years due to restrictions from the national park. National park officials oppose swidden agriculture and this type of agriculture is considered illegal in the park area. However, people in Sunlight still need this type of agriculture because it is a very important source of their food. As a result, they have had to change their strategies for cultivating swidden land (see greater detail in Chapter 7).

In Moonlight, the situation is very different from Sunlight. Swidden agriculture used to be the major agricultural activity in Moonlight. However, since the introduction of cash crops by the government in 1977, swidden agriculture becomes less important to the economy of Moonlight. By 1992, swidden agriculture had completely disappeared from Moonlight. The decline of swidden agriculture in Moonlight came not from the pressure of forest conservation policies, but from people having cash crop alternatives to replace swidden agriculture.
Figure 15: Degazetted Lands in Moonlight

Source: Adapted from OFR map, nd.
Figure 16: Degazetted lands in Sunlight

Source: Adapted from ONP map, nd.
Land Tenure System

By law most land in Sunlight falls under the jurisdiction of the National Park Act, while most land in Moonlight comes under the jurisdiction of the National Forest Reserve Act. Only one plot of land (6 hpá si) in Moonlight has a Nor Sor 3 分 (NS3), while no piece of land in Sunlight is legally owned by an individual. Even though, most land in Moonlight does not have a land title, a large amount of land in the village territory has been degazetted from the national forest reserve (see Figure 15). In contrast, only four small pieces of land in Sunlight were degazetted from the national park (see Figure 16).

Table 5.3

A Comparison of Land Use in Sunlight and Moonlight

<table>
<thead>
<tr>
<th>Village</th>
<th>Irrigated Land</th>
<th>Garden</th>
<th>Swidden Land</th>
<th>Total</th>
<th>Average Per H.H.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sunlight</td>
<td>97.25</td>
<td>31.25</td>
<td>16.25</td>
<td>144.75</td>
<td>6.89</td>
</tr>
<tr>
<td>Moonlight</td>
<td>478.5</td>
<td>678.25</td>
<td>-</td>
<td>1156.75</td>
<td>14.46</td>
</tr>
</tbody>
</table>

Unit = hpá si

The Nor Sor 3 or NS3 is under the land code, and in practice confers full private property rights including rights to sell (Vandergeest and Peluso 1995).
As discussed in Chapter Three, the Pgak’nyau people have their own concept of property and property rights. This section will further discuss Pgak’nyau concepts of property rights in land. According to village data, there is a total of 144.75 hpa si of land under use in Sunlight, with an average size of 6.89 hpa si per household. In Moonlight, there is a total of 1156.75 hpa si of land under use, with an average size of 14.46 hpa si per household (see table 5.2).

Table 5.4

A Comparison of Household and Size of Irrigated Land

<table>
<thead>
<tr>
<th>Size of land (hpa si)</th>
<th>Sunlight</th>
<th>Moonlight</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No of Households</td>
<td>Percentage</td>
</tr>
<tr>
<td>No land</td>
<td>2</td>
<td>9.52</td>
</tr>
<tr>
<td>0.1-5</td>
<td>10</td>
<td>47.62</td>
</tr>
<tr>
<td>5.1-10</td>
<td>7</td>
<td>33.33</td>
</tr>
<tr>
<td>10.1-15</td>
<td>2</td>
<td>9.52</td>
</tr>
<tr>
<td>15.1-20</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>20.1+</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>
- Sunlight

1. Irrigated Land

Most people in Sunlight (90 per cent) have at least a small piece of irrigated land. According to data from the village, there is a total 97.25 hpa si of irrigated land, with an average size of 4.63 hpa si per household. Two households have no irrigated land, while almost half of households in the village have less than five hpa si. There are only two households that own irrigated land of more than ten hpa si. As with permanent gardens, the average size of irrigated land per household in Sunlight is also smaller in comparison to in Moonlight. Again, this is because of national park policies which make it difficult to expand irrigated lands (see greater detail in Chapter 6).

2. Permanent Gardens

The number and size of permanent gardens in Sunlight is very small in comparison to Moonlight. There are a total of 31.25 hpa si of permanent gardens in the village, with an average of less than two hpa si per household. Three families do have permanent gardens. Most families own less than three hpa si, while only three families own more than three hpa si of permanent gardens. The largest permanent garden owned by a family is 5.25 hpa si.
Table 5.5
A Comparison of Household and Size of Permanent Garden

<table>
<thead>
<tr>
<th>Size of land (hpā si)</th>
<th>Sunlight</th>
<th></th>
<th>Moonlight</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No of Households</td>
<td>Percentage</td>
<td>No of households</td>
<td>Percentage</td>
</tr>
<tr>
<td>No land</td>
<td>3</td>
<td>14.3</td>
<td>7</td>
<td>8.7</td>
</tr>
<tr>
<td>0.1-5</td>
<td>17</td>
<td>80.95</td>
<td>31</td>
<td>38.8</td>
</tr>
<tr>
<td>5.1-10</td>
<td>1</td>
<td>4.76</td>
<td>20</td>
<td>25.0</td>
</tr>
<tr>
<td>10.1-15</td>
<td>0</td>
<td>0</td>
<td>13</td>
<td>16.3</td>
</tr>
<tr>
<td>15.1-20</td>
<td>0</td>
<td>0</td>
<td>7</td>
<td>8.7</td>
</tr>
<tr>
<td>20.1+</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>2.5</td>
</tr>
</tbody>
</table>

3. Swidden Land

Swidden land is still very important in Sunlight, with most families (62 per cent) continuing to practice this type of agriculture. There are a total of 16.25 hpā si of swidden land in the village, with an average of less than one hpā si per household. The largest piece of swidden land owned by a single household is only 2.2 hpā si. Traditionally, each household used to own six or seven plots of swidden land so that use of each field could be rotated. But today, villagers
are no longer allowed to rotate usage of their plots of forest fallow. Once the field has been left fallow, park rangers will not allow reclearing of the land. People can no longer claim rights over their forest fallow, so the average size of swidden holdings in Sunlight is now smaller. People can only lay claim to the swidden field they are currently using, land that they have been repeatedly using for several years.

- Moonlight

1. Irrigated Land

Most people in Moonlight (89 per cent) have at least one small piece of irrigated land. In reality almost all households have irrigated land, but the heads of households may claim they no longer hold any land because they do not cultivate the fields themselves. This is the case particularly for the elderly who may have already given the land to their children. And though they no longer consider that the land belongs to them, they may still share in the rice or other produce.

According to the village data, there are currently 478.25 hpa si of paddy or irrigated lands in the village, with an average size of 5.97 hpa si per household. Most households have less than 10 hpa si of irrigated land. The
largest paddy land owned by a single family in Moonlight is 27 hpā si.

2. Permanent Gardens

Rather than simply being used to meet subsistence food needs, permanent gardens have become more highly valued with the introduction of temperate zone fruit trees by a highland development program. Permanent gardens are no longer limited to only the household compound, and in the past ten years, many people in Moonlight have converted their former swidden lands into fruit orchards. Most households (91 per cent) in Moonlight have permanent gardens or fruit orchards, and only seven households were recorded as not having any land under such use. Currently, there are a total of 606 hpā si of fruit orchards in Moonlight, with an average size of 7.6 hpā si per household. The largest holdings of permanent gardens owned by a single household in is 27 hpā si.

3. Swidden Land

The last family practising swidden agriculture in Moonlight, stopped in 1991. However, people still lay claim to former forest fallow plots, so that in the future they may convert them into irrigated fields or permanent gardens.
Property Rights in Land

Though the Pgak’nyau people lived in the area of Sunlight and Moonlight for over one hundred years, only one small piece of land in Moonlight and no land in Sunlight, has an official land ownership document. Elderly people in both Moonlight and Sunlight told me that some thirty years ago, government officials from the Land Department came to their villages and told people that they could obtain land rights documents if they paid certain fees. Most people did not realise the importance of having ownership documents, so they ignored the government officials because they did not want to pay the fees. The holder of the one land ownership document (NS3) in Moonlight told me that the land was inherited from her grandfather. Her grandfather had been issued the NS3 in 1969, after paying government officials with a male water buffalo.

Despite not having land titles, the government did in the past officially allow people in Sunlight and Moonlight to cultivate their lands. The government used to collect taxes on cultivated lands, mostly terraced fields. This land tax was called Por Bor Tor (PBT) and people who paid the tax were issued with receipts. Most Pgak’nyau mistakenly believed that these tax receipts gave them title to their land, but in fact, the receipts were strictly an acknowledgement of local taxes paid. There were many versions of the PBT, each having
a different receipt. For example, the PBT6 tax receipt provided details the name and address of the owner and details of land value, usage, size and location. In contrast, the PBT11 tax receipt does not provide any land details, and lists only the amount paid and the name and address of the payer.

The chief of Moonlight reported that the government charged five baht for each hpâ si of cultivated land, but waived taxes on the first three hpâ si. He also said that collectively, people in his village used to pay almost 1000 baht annually in PBT taxes. The numeration of these taxes were irregular, though they had to be paid every year. The chief reported that he began paying land taxes in 1970 and was given a receipt for PBT6 taxes. However, his the land tax receipt he got in 1989 was for PBT11. PBT taxes were finally cancelled in 1991 by the Chatichai government because of their inconsistency with an official ban on agricultural activities in public forests.

The policies of various levels of government towards land rights for the Pgak’nyau has been vague and inconsistent on more than one occasion. In 1985, government officials from the Land Reform Office came to Moonlight and surveyed irrigated land within the village territory. The officials told people that they would issue land rights documents,
called *Sor Por Kor 4-01 (SPK4-01)*, to the villagers. Initially people in Moonlight were very pleased with these developments and they helped the government officials carry survey poles onto their irrigated plots of land, pointing out the boundaries and planting the poles. However, while the surveying was still underway, another government official came and told villagers to remove all of the poles. He claimed that he had received an order to stop the process of acknowledging land rights because the area would soon be declared a new national park.

Abrupt changes in policy aside, the core of government policy discrepancies lies in the recognition of what is considered *Pgak’nyau* land. As noted earlier, only one piece of land in all of Sunlight and Moonlight has a land rights document. On the other hand, there is some vague acknowledgement of *Pgak’nyau* occupation rights in that some land in both villages have been set aside from the national park or forest reserve. However it is to Sunlight's misfortune to have fallen within the boundaries of a national park and only four plots of paddy land have been set aside from the park. Whereas Moonlight's location within a forest reserve has allowed for almost all land under use in village

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6 The SPK4-01 is a land reform document provided by the Land Reform Office, mostly now in zones that have been degazetted as reserve forest. It does not include rights to sell although in practice people sell land under these documents anyway (Vandergeest 1995).
territory to be degazetted from the reserve. (Figure 15 from above)

The lack of land rights documents have proven to be a hardship for the Pgak'nyau. They are considered by the government to be illegally cultivating lands in national parks or forests, and this creates insecurity in their lives as they may be forced to relocate elsewhere at any time. Forced relocation has already happened to some Pgak'nyau villages in Kampaengphet Province. However, the lack of ownership documents has also proven to be of some advantage. Thai people from lowland areas have largely been uninterested in purchasing Pgak'nyau lands because of the lack of legal documents. This has enabled the Pgak'nyau in Sunlight and Moonlight to keep their land and maintain their cultural identity with less interference from the lowland Thai.

**Concept of Property Rights in Land**

1. *Property Rights on Irrigated Land*

   Irrigated land amongst the Pgak'nyau is considered private property. However, the Pgak'nyau concept of private property in irrigated land differs from the Western concept. Though irrigated land is fully acknowledged as private property, non-owners are not necessarily excluded from using it for other purposes. Normally, there are not any trespassing rules which
prohibit people from entering privately held, irrigated fields. So for example, anyone may enter a flooded, wet rice field to collect natural vegetation or to catch small fish and crabs as long as he or she does not disturb the owner's rice crop.

After the rice is harvested, paddy land becomes even more accessible to people in the community. Traditionally, irrigated lands are used only in the rainy season, and the fields are left vacant and unfenced during the dry season. Therefore, anyone can use the land for purposes other than cultivating crops. During the dry season, it is acceptable practice for community members to raise their cattle on other people's vacant paddy fields (see Figure 17). Normally, the owner of the field does not object because the cattle will produce compost, improving rice production in the following year. However, there is a common understanding that any use of other people's paddy fields must be done with care, so for example, not damaging the mud walls when digging for crabs.
Figure 17 Grazing Field
2. Property Rights in Permanent Gardens or Fruit Orchards

Fruit orchards are also considered private property. The Pgak’nyau concept of property in permanent gardens has changed since fruit has become a marketable cash crop. In the past, fruit trees were mostly grown within the household compound for personal consumption and for sharing with other community members. People could freely consume fruit that had fallen from other people’s trees, and it was even considered immoral and antisocial in Moonlight to sell fruit to other Pgak’nyau. However today, this concept has changed. Fruit has become a source of income and people who are not members of the family cannot enter or collect products from permanent gardens.

3. Property Rights on Swidden Land

Generally swidden land in a Pgak’nyau society is considered private property, not communal property, and its owner has rights over the land even during fallow periods. During the growing season when a swidden field is under cultivation, the land is fully considered be to private property, and only the owner may gather any vegetation, whether planted or naturally grown.

After the dry rice is harvested, the swidden field is still considered private land. The owner retains rights and other community members may not plant anything unless
permission is granted by the owner. Though the owner retains control over any cultivation that takes place in a swidden field after it has been left fallow, uncropped swidden land may then be partially considered as communal land in terms of access and gathering of resources.

Similar to irrigated fields, non-owners are allowed to use other peoples' swidden fallow to raise their own cattle. Community members are also permitted to collect vegetation, herbs and any other forest products such as bamboo shoots, etc. The cutting of trees in swidden fallow is allowed for minor purposes such as for firewood, but this must be in very limited quantities. Setting fires in swidden fallow is absolutely prohibited because of its effects on soil fertility and rate of forest regeneration.

Ownership of swidden fields is gained through labour used to clear the forest, so if an owner allows a field to lie fallow for more than ten years, he or she may lose rights over the land. Because after ten years, trees in the forest fallow will have grown too large to permit easy reclearing and the Pgak’nyau will consider the area to be simply forest, rather than a forest fallow field.
Water Use and management

This section describes the contemporary water use and water management amongst Pgak’nyau people in the two villages under study. Three main topics will be discussed: water for household consumption, irrigation management and the water crisis.

Household Consumption

The principal source of water for household consumption in both Sunlight and Moonlight comes from surface water, supplemented by rainwater and groundwater. In the past, usage of water for household consumption was minimal. Because water for consumption came from wells located away from the village near creeks or streams, carrying water was labour intensive and people needed to use it sparingly. When people needed to bathe or wash clothes, they went to streams nearby the village. And there was no need to carry water for use in washrooms, as these did not exist and people simply did their private functions in bushes. Washrooms are a new thing for Pgak’nyau people and many villages still do not have even a single washroom.

Today, the pattern of water usage amongst the Pgak’nyau is changing. Drinking water still comes mainly from wells and rainfall, but both Sunlight and Moonlight have running water systems to provide for other household water uses. Most
household in the two villages now have washrooms and people no longer go to streams for bathing and washing clothes.

The running water system is quite simple: PVC pipes are lain to transport water from a stream to the village. Water is drawn down slopes through the pipes only by gravity, and there is no filter to clean the water. People can draw water from the pipes all year round, but the water cannot be used for drinking during heavy rains because of heavy sedimentation. This type of water supply system has operated in Sunlight for almost ten years. Villagers installed this PVC system on their own, without government assistance, and all villagers are equally responsible its maintenance.

In Moonlight, the running water system was installed in 1981, with the water coming from a reservoir located one kilometre west of the village. The government provided funding for supplies, while villagers collectively installed the pipes. Because the system does not have a filter and another Pgak’nyau village is located upstream of the reservoir, people in Moonlight use the running water only for cleaning and other household purposes.

Irrigation System

Traditionally, water for agricultural purposes in Pgak’nyau communities came from rainfall and weirs developed to draw water from creeks, streams or rivers. Because most
Pgak’nyau people live in highland or upstream areas, the size of their weirs is smaller compared to lowland weirs.

Pgak’nyau weirs were traditionally constructed from locally available materials, which Boonto describes as follows:

The weirs were traditionally built using brush, logs, bamboo, and river rocks plastered with mud, small stone and sand. The weirs raised the water level and diverted a portion of the water into the relatively small and shallow canal along the contour of the mountain to the pond field (1991:109).

At the time of this study, there are eleven irrigation systems drawing water from three different creeks within the territory of Sunlight. In Moonlight, twenty-seven irrigation systems draw water from twelve creeks. The owner of each irrigation system can range from a single household to over ten households. In Sunlight, the largest irrigation system is owned by five different households, while the largest traditional irrigation system in Moonlight is owned by seventeen different households. Fewer fields can be irrigated by the same system in Sunlight because the valleys in the territory are narrower than in Moonlight. The maintenance and repair of irrigation structures, that is the weirs and canals, are the collective responsibility of the group of owners.

In the past, irrigation systems were used only during the rainy season for rice cultivation. This remains the case in Sunlight, but in Moonlight the pattern of use has changed.
People in Moonlight draw water from irrigation systems all year round. In the rainy season, they grow rice and cash crops, and in the dry season they grow only cash crops. The construction of a reservoir in Moonlight by the Office of Accelerated Rural Development in 1978, made water available for agriculture purposes almost year round. The combination of a better irrigation system, better roads, and better agricultural extension services made it easy for people in Moonlight to grow cash crops, and this has resulted the village having a more vibrant, diversified economy than in Sunlight.

**Water Crisis**

In the past, there was no shortage of water in northern Thailand because agricultural activities were limited. Water for agricultural activities was used mainly for supplying paddy rice in the rainy season, and after rice was harvested, water in creeks, streams, or rivers flowed freely downstream to lowland villages or towns.

During the past ten years, however, water has become a contentious issue in Thailand. People who reside in downstream provinces in the lower northern region have experienced water shortages during the dry season from February to May. The expansion of farmlands for cash crops during the dry season is the main cause of such water
shortages. Global warming and El Nino can also be blamed for the changing the water patterns.

Even in an upstream village such as Moonlight, people have experienced water shortages. People in the village have told me that there is something wrong with the weather. There used to be a lot of rainfall from May to November. But during the past ten years, the rains have always come late. There is now little rainfall in May, when the Pgak’nyau normally start growing rice. In recent years, rain has consistently been delayed to June or July. This is not good for paddy rice cultivation because rice needs to be planted before the end of June or early July, and harvested before December. Because the village is located 1,000 metres above mean sea level, it becomes too cold for the rice crop in December. Beginning in May, people in Moonlight need to use water intensively to start the new rice planting season, and if there is no rain, the reservoir will dry out.

One of my key informants told me that the rapid expansion of farmlands for growing cash crops in during the past ten years is one reason for the shortage of water during the dry season. Farm lands in Moonlight doubled in size after the building of a reservoir in the village. Over two hundred hpā si of swidden land below the reservoir have been converted to paddy land and permanent gardens. In Sunlight, water shortage is not a significant problem for people in the
community because they do not grow cash crops in large quantities.

**The Organisation of Labour**

In agrarian society, where farmers use basic and uncomplicated tools or instruments, labour is always considered one of the most important factors in agricultural production. The labour system in Sunlight and Moonlight, as well as most Pgak’nyau communities, can roughly be divided into four types: household labour, exchange labour, paid labour and co-operative labour.

**Household Labour**

Household or family labour plays an important role in the production system of a Pgak’nyau family. Since most Pgak’nyau families are nuclear families, household labour is normally comprised of the father, mother, sons and daughters. Everybody in a Pgak’nyau family has to work in order to help family economic affairs. Each person has a specific role in supporting his or her family. Pgak’nyau families begin training their children to work in early childhood and children are socialised to help themselves and their family. A six-year old might start contributing to the family by doing light work such as washing dishes, feeding chicken and carrying water from wells. A seven-year old child may be
designated with a job such as caring for younger siblings while the parents work in the field. At ten years of age, boys normally have to look after cattle, while girls cook, clean and wash. At fifteen, boys and girls are considered old enough to carry on more difficult work and they begin to help their families in agricultural production.

Normally, the father and mother are considered the main labourers for agricultural production within the family, particularly when the children are still young. However, the father and mother will likely to relinquish their dominant role as labourers after their children grow up. Their children will then take over responsibility for most of the work in rice fields. Ramitanondh and Somsawasdi (1992) claim that the heads of household in Pgak’nyau villages retire early from being the main labourers in the household agricultural production. They report:

Although he is only 50 years old, he does not have to do agricultural production for the household. His major responsibility is to see whether the cattle cause any damage in the fields, and on the way back to the house to help his wife in gathering food in the woods for the meals of the following day (1992:132).

When people get old, they normally stay at home and look after the house and their grandchildren. There is no pension system in Pgak’nyau society. When people get old, they have to rely on the labour of their children to get agricultural work done, which is why the Pgak’nyau like to have many children.
Figure 18 Children Learning Their Duties
Figure 19

A Farmer and His "Iron Buffalo" Tractor
Today, the household labour system in Pgak’nyau society is changing. Several factors are causing this change in the family labour structure, including increasing educational opportunities, expansion of infrastructure and the adoption of modern technology.

Most families are facing labour shortages because their children go to school instead of working in the fields. More prosperous families are hit harder than poorer families. Children from families with a higher income are more likely to continue their education to a higher level, because they have the resources. As a result, these families lose a vital source of labour.

In Sunlight, there are nineteen students studying in schools outside the village, while there are twenty-nine students in Moonlight who are studying in Thai towns. Therefore, over 17 percent and 7 percent of expected labour in Sunlight and Moonlight, respectively, are not available for the families. Most schools in Thailand begin the new academic year in the middle of May, when the new season for agricultural activities is also starting.

Because of schooling, students are unavailable to help their families in agricultural production. Children who go to school in the village can help their parents in the morning and evening, but children who go to school outside the village cannot do the same thing. Besides students who are
currently studying, educated children who have already graduated from college or university are also no longer available to contribute to family agricultural labour. Graduates tend to find higher paid employment related to their education outside the village. In Moonlight, eleven people who have graduated from college or university, work outside the village. No one from Sunlight has yet graduated from college or university. However, the number of people receiving higher education both in Moonlight and Sunlight is increasing and they will likely no longer be available to their families as agricultural labour. Refer to Appendix E for further details of education background in these two villages.

The building of infrastructure has also changed the organisation of family labour. Infrastructure such as running water reduces the need for labour to carry water for household usage. In the past in both Sunlight and Moonlight, women and children carried water twice a day from wells located 2-300 metres away from village houses. Today the two villages have running water and most families have water piped right into their houses.

The adoption of modern technology such as tractors has also reduced the work for men and children in the land preparation stage. Traditionally, Pgak’nyau people used water buffalo to plough paddy land. A field of three acres might
take at least three weeks to plough and harrow, and require the labour of two men and two water buffalo. An older water buffalo with ploughing experience might need only one person to command it, whereas a younger water buffalo with no ploughing experience might require the labour of an additional person. Usually a child would lead the inexperienced water buffalo, while another person would control the plough from the back. But with the use of a small tractor, it might take only two days to plough and harrow the amount of land.

Overall, it has been increasing levels of education that has had the most profound effect on the structure of labour in Sunlight and Moonlight. New technology has to some extent increased the productive capacity of families and counterbalanced the loss of labour by children. However, the permanent loss of some young people to other educational and work opportunities has effects beyond the productive capacity of a family. Family and community social structures and relations have also been affected. The unavailability of labour from children has created more work for other family members. It has forced many elderly people to work longer and retire later, and many families have had to sell all of their cattle because their children were no longer available to look after the animals. In the community, the shortage of
household labour has directly resulted in an increase of hired labour and a decrease of exchange labour.

**Exchange Labour (ma daū & ma kā)**

Exchange labour is a form of work organisation created by community members to assist each other during periods of work when intensive labour input is required. Cooper (1984) describes labour exchange as:

[Exchange labour] is characterised by direct parity reciprocity. The exchange transaction, essentially between two parties, is entered into on the understanding that reciprocity will be short-term and equal. It brings to both parties the benefits of a temporarily maximal work unit without the seasonal need for hired labour (1984:121).

The Pgak’nyau call exchange labour “ma daū ma kā”. Ma daū occurs when a person requests labour and assistance from another person, under the understanding that the assistance will be reciprocated at a later time. Ma kā is to pay back earlier assistance by providing labour in return. This system is used by the Pgak’nyau not only in agricultural production, but also in non-agricultural work such as lumbering and house construction.

Ramitanondh and Somsawasdi (1992) described the important role that labour exchange plays in Pgak’nyau society. Labour exchange is highly necessary during certain stages of agricultural production, such as in the
transplanting, weeding and harvesting of rice. Planting rice seedlings is time-sensitive, because this needs to be done when seedlings are 30 to 40 days old. Rice also needs to be harvested within a specific time period. If the crop is left too long, the rice plant will decay and require more work to harvest.

The exchange labour system is not limited to members of a community and people from nearby villages can also join the exchange system. Exchange labour creates social relationships between people who share their labour, and this is very important to Pgak’nyau culture. For example, there is little opportunity for dating rituals as known in the West, and exchange labour is one of three traditional kinds of Pgak’nyau social gatherings where people from different villages, particularly young people, can meet and talk openly (the other two being at marriage or funeral ceremonies). Chance meetings in rice fields while participating in exchange labour has resulted in many marriages, and numerous Pgak’nyau songs and tales tell of love and friendship formed between young people who met in rice fields.

The exchange labour system also creates social cohesion amongst people in the community. Everyone is considered an equal in sharing labour and people have a constant reminder that they rely on each other as members of a community. People share their views, problems and happiness while
working together, and this leads to mutual understanding and a sense of community. At its most basic level, the exchange labour system creates an atmosphere which makes work more fun and enjoyable. Most agricultural work is difficult and monotonous, and sharing labour takes the loneliness out of what could be a very solitary task.

Personal integrity is crucial in an exchange labour system, because people do not sign an agreement or record when and where the exchanges occurred. People use only their memory to track to whom they owe labour and who are owing to them. One expects to get back an equal return from what one has given or shared in labour. One cannot avoid reciprocating earlier assistance, because otherwise people in the community will refuse future assistance. In Pgak'nyau society, only a very few individuals would dare to break accepted norms in the exchange labour system.

When people help a family, they would normally expect a member of that family to return the favour. However in returning earlier assistance, it is sometimes acceptable for families to hire someone to do ma kā in their place. This is because sometimes two or three people who had come to ma daū, might request ma kā on the same day. However, it is considered impolite if members of a family are available that day, but they still hire someone else to take their place in returning labour.
Figure 20 Woman Cutting Rice Seedlings
Figure 21 Labour Exchange in Rice Transplanting
Exchange labour in agricultural production amongst the Pgak’nyau is transferable from one season to another. For example, if A ma daũ B during the rice transplanting season, but A had already finished rice planting, then B could ma kâ A later during the harvest season instead. However, this situation does not often happen, because people know each other and know when to start and stop exchanging labour with other families.

Exchange labour is still important to agricultural production in Pgak’nyau communities, and it is still required by most families in traditional activities such as growing rice. However the levels of exchange labour activity has fallen sharply in Sunlight and Moonlight over the past ten years. This drop in exchange labour has been caused by: firstly, a decrease in available farmland, particularly swidden fields; secondly, an increase in cash crop cultivation; and thirdly, an improved education system drawing young people out of the village labour system.

The greatest factor in the decrease of exchange labour is the decline of swidden agriculture. In the past, particularly before 1976 when a highland agriculture program began in the village, over 75 percent of households in Moonlight practised swidden agriculture, as opposed to none today. Swidden agriculture is still practised in Sunlight,
but by fewer households. (Chapter 7 describes the decline of swidden agriculture in further detail).

The decline of swidden agriculture in Moonlight has changed the village labour system. Poorer families, who no longer have swidden fields and possess little or no irrigated land, can meet labour requirements from within their household. They no longer require additional assistance and have little reason to exchange labour with more prosperous families. In Moonlight, twenty-two households (27 per cent) have three *hpâ si* of irrigated land or less. This small amount of paddy land is considered manageable in terms of planting, weeding, and harvesting by a household with three labourers. Therefore, people from these households will not likely be involved in the village exchange labour system or be involved on a smaller scale.

The second factor resulting in decreasing exchange labour is an increase in cash crop cultivation. Most households in Moonlight and many households in Sunlight are involved in growing cash crops. Most cash crops are very weak in comparison to domestic crops, and they require more care and intensive labour to grow. In contrast, traditional crops such as paddy rice need little labour input after the rice has been planted. Farmers might only visit their rice fields once a week to check the water level. The time that farmers must spend tending their cash crops, makes them busier and
less available for exchanging labour. Furthermore, the nature of the exchange labour system is not conducive to cash crop cultivation. In the exchange labour system, one cannot guarantee that assistance will be reciprocated at a specific time. Therefore, for the owner of a cash crop field, it is often better to hire somebody to do the job who can guarantee availability for particular days. However, exchange labour does still exist in cash crop cultivation, but on a very small scale. Most people who share their labour in cash crop cultivation are close relatives.

Paid Labour

In the past, paid labour played a small role in agricultural production, because there was a strong exchange labour system. Still, despite the subsistence nature of the traditional Pgak’nyau economy, paid labour has existed for some time and it is not a new development. There have always been times in the past when household or exchange labour were unavailable or insufficient to meet requirements, and additional labour had to be hired. This did not necessarily mean that cash was paid, and often hired labour was paid with the product of their work, such as with harvested rice.

Labour in Pgak’nyau society can be hired on daily or seasonal basis. The following, about hired seasonal labour, was related to me by one of my informants in Moonlight:
In 1972, after almost ten years of living with and working for my father-in-law, my wife and I built our own house and started cultivating our own land. My wife was given a paddy field by her father and I was given one by my mother. So our family started with two pieces of irrigated land, with a combined area of almost 13 hpā si. Then three years later, I bought two more paddy fields, for an additional 20 hpā si. Our children were young and went to school at the time, and my wife and I were unable to cultivate the land with just our labour. Therefore, I hired two people, one young man and one young woman, to work with us in our rice fields. They were both from my village and their families were quite poor and had a labour surplus. They stayed with my family during the agricultural season, from May to the end of October, and I paid them with paddy rice. The main portion of rice was given to their families at the beginning of the agricultural season in May and the rest after rice was harvested in October.

Two hired seasonal labourers was still inadequate to meet needs during certain stages of agricultural production. The same informant explained:

Even though, I had hired two seasonal labourers to work for me, at times I still had to hire daily labour to do extra work, such as fencing and making the Khana (mud walls in rice fields).

In the past, hired labour amongst the Pgak’nyau occurred not only in agricultural production, but also in other types of work. The following was related by a man in Moonlight, now in his early forties, who had been hired as wage labour since early childhood.

I was born into a poor family in Moonlight, the fourth child in a family of six. My family had a small piece of paddy land which was only 3 hpā si, and they also practised swidden agriculture. My older brothers and sister provided the main labour for my family’s agricultural production. At the age of twelve, my father told me to work for a richer family in the village. I
worked for that family and my main responsibility was to look after their cattle. I remember that they gave my parents some cash and paddy rice. At the age of fifteen, I changed my job from being a cowherd to an elephant mahout. My brother-in-law, who owned four elephants and was in the lumbering business, asked to work for him. My parents gave me permission and I worked for him as an elephant mahout for almost six years.

In the past, it was quite common for young Pgak’nyau men to work as elephant mahout for lumbering companies. Many men in Sunlight and Moonlight work as elephant mahout and earned the main source of cash income for their families.

Besides working as cowherds or elephant mahout, there were other types of wage employment in the hills of northern Thailand. In the past, many Pgak’nyau in both Sunlight and Moonlight worked for the Hmong people to prepare soil for cultivation. A man in Sunlight told me his story of working for the Hmong to prepare soil for opium fields.

During the soil preparation stage for growing opium, the Hmong needed intensive labour to dig the soil. Some Hmong families cultivated many large pieces of land and they did not have enough household labour. Therefore, they came to my village and hired people to work for them. They normally paid people by the piece of land worked. During this period, I had already finish rice planting and I had spare time. So, I went to work for them. Many people in my village did the same thing. We earned some cash income from working for the Hmong.

This man also explained why the Hmong began preparing soil for opium later in the season, after the Pgak’nyau were finished planting rice. He explains:

They may clear forests in dry season (February - April), but they would not start growing opium until some time
in late July or August. It was the nature of the poppy flower that it cannot be grown earlier. Theoretically, one can grow opium earlier, but opium cannot be harvested in the rainy season.

Today, hired labour includes almost every type of job, and wages have become a more important part of village economies. Swidden agriculture is no longer practised in Moonlight, while the size of swidden holdings has been reduced in Sunlight. This has resulted in surplus labour in both villages and an increasing number of people who depend on wages for their livelihoods. There is some opportunity for wage employment in Moonlight, because many families require extra labour to cultivate large pieces of land for cash crops. This is not the case in Sunlight, where there is no large-scale cash crop cultivation and little need for hired labour. However, people do find wage employment in other villages and nearby Thai towns and cities. People still aspire to being farmers and growing paddy rice, but during periods of low activity, it is now very common for them to find temporary work as wage labour.

**Co-operative Labour**

Co-operative labour is another form of work organisation in Pgak’nyau society. Cooper, who did research on the Hmong in northern Thailand, defines co-operative labour among the Hmong as being characterised by indirect reciprocity in
labour contribution and/or consumption of the products of their labour. No calculation of profit and loss is made and no direct reciprocity is expected (1984:101). Co-operative labour amongst the Pgak’nyau is quite similar, and basically means volunteering on community projects. Pgak’nyau ideology, our norms, values and attitudes, plays an important role in compelling people to work together on mutually beneficial projects. In Sunlight and Moonlight, this kind of co-operative labour can be organised at both a village and group level.

At the village level, people all contribute to projects that will benefit the whole community, for example, building a rice bank, installing a water supply system, digging a road or fire fighting. Village level co-operative labour still operates strongly in the two Pgak’nyau villages under study. During the rainy season, villagers will gather and work together to repair roads or paths in the village, or repair the roads which connect their village to Thai towns. In the dry season, co-operative labour is used to build fire control lines and to watch for forest fires. The co-operative labour system can also be seen in marriage ceremonies and funerals. In both ceremonies, people in the village are expected to stop working in their fields, and at least one member of each family is expected to help the host family in food preparation, cooking or other duties. When co-operative
labour is needed at the village level, villagers are committed to having at least one family member join in the efforts.

Co-operative labour can also be organised amongst a group of people who share the same interests or resources, such as in a water use group. In Moonlight, people who share the same irrigation canal have to gather and help each other repair the weir and clear vegetation along the canal, every year before the start of the new agricultural season. The chief of Moonlight told me that people rarely dispute the system, because they are afraid that they may be punished for not joining in the group effort.

Conclusion

In describing how the Pgak’nyau people of Sunlight and Moonlight use and manage their forest, land, water and labour resources, a number of common threads can be seen. Internal and external forces have brought about changes in Pgak’nyau society that have been both direct and indirect. For example, government programs and Pgak’nyau desires for a better standard of living have resulted in greater access to education, better infrastructure and a more diversified economy. But the effects of these changes are multiplied beyond simple “products” such as educated young people,
running water systems or new cash crops. Pgak’nyau village systems and social relations have also been impacted.

These changes have also brought about greater contact with Thai society - new markets, employment opportunities, and unfortunately, conflict. Conflict with lowland Thais over the use of water resources in cash crop production, is but a small part of a larger picture of change and pressure on traditional Pgak’nyau ways of life. And nowhere are the changes and pressures more evident than in the effects of government park and forest reserve policies. People in Sunlight and Moonlight have lost control over their traditional use of forests, affecting everything from village government to housing materials to methods of agriculture to wage labour. Differing policies between national parks and forest reserves, and the unclear legal status of peoples’ homes and agricultural lands in these areas, present a heavy psychological burden for the Pgak’nyau people and a situation for continued conflict.
CHAPTER VI
THE IMPACT OF PROTECTED AREAS

This chapter discusses the impact of government conservation policies on the Pgak’nyau people in the study area. It is divided into four sections. The first section discusses traditional settlement patterns and how national park laws have brought insecurity to current Pgak’nyau villages. The second section discusses the impact of conservation policies on social citizenship rights. The third section discusses how parks have caused a scarcity of land available for farming, and the last section discusses the shortage of rice resulting from this decrease in farmland.

The Insecurity of Settlements

The ancestors of the people of Sunlight and Moonlight migrated eastward from Mae Hong Son Province to Chiang Mai Province, and have resided in the valley areas of Sunlight and Moonlight for over one hundred years. No official records document when the two villages were first established, but informants report that the settlement of Sunlight was established in the 1900s, while Moonlight was established even earlier before the turn of the century.
Figure 22

Documentation of the Designation of British Subject
Figure 23 Pgak'nyau Traditional House
The community of Sunlight moved to its present location 60 years ago after moving from a nearby valley to escape an outbreak of smallpox. For Moonlight, the oldest available record documenting its settlement is a certificate issued in 1908 by the British Consulate in Chiang Mai, which conferred the status of British Subject to the grandfather of the current chief of Moonlight (see Figure 22).

Both Sunlight and Moonlight have relocated several times since the first settlements were established. Prior to the implementation of new conservation policies in the 1960s, it was a common phenomenon for Pgak’nyau communities to relocate their villages to nearby locations, sometimes only 500 metres away. Boonto writes that for example, a Pgak’nyau village might relocate when the traditional religious and political leader (hi ḥkô) died without a suitable successor (1991:46). Disease was another reason for relocating villages. This was the case for Sunlight, which relocated to its present location during the Second World War because of an outbreak of smallpox. The last relocation of Moonlight, which occurred over forty years ago, took place because of religious differences that arose when the former chief of Moonlight converted to Christianity. The chief decided to relocate the village because he wanted to stop the conflict between his family and some of his villagers who had not
converted. He moved to Moonlight’s present location, and eventually the rest of the villagers followed him.

Before protected areas were put in place, it was quite easy for the Pgak’nyau to resettle because most of their houses were built with simple materials which could be collected from the nearby forest (see Figure 23). Building a traditional Pgak’nyau house was also quite easy and it could be built in only two or three days. A traditional Pgak’nyau house was not durable and might last only seven to fifteen years. An elderly women in Sunlight told me that her present house is her fifth house. Most of her houses lasted less than ten years.

Now houses are built more sturdily and last longer. The chiefs of both Sunlight and Moonlight told me that most people have permanent houses and they do not want to relocate anymore. The current settlements of Sunlight and Moonlight are stable, and the tradition of village relocation has died.

However, stability has proven to be elusive because the creation of new protected areas in the past decade has brought insecurity and uncertainty to many indigenous villages. New conservation policies have taken control over the future of villages located within protected areas, out of the hands of local people. The Pgak’nyau and other highland groups who reside in protected areas, have valid reason to feel insecure in their settlements. They see a consistent
pattern throughout the world where indigenous communities are forced to relocate when their homelands are identified for inclusion in new protected areas.

The pattern of expulsion of local residents began with the establishment of the world's first national park in 1872 at Yellowstone in the United States. Kemf reports that the Shoshone were expelled from Yellowstone and violent conflict between the Shoshone and park authorities resulted in as many as 300 deaths in 1877 (1993:5-6). In Africa, the Batwa "pygmies" were expelled from their homelands because national parks were established to protect mountain gorillas (Colchester 1994:13). In Asia, several groups of indigenous people have been expelled from national parks, for example, the Vedda of Sri Lanka and the Mongondow of Indonesia (Colchester 1994).

In Thailand, several highland communities located in protected areas have been relocated. Eudey reports that the Hmong village of Huay Yew Yee in Huai Kha Khaeng Wildlife Sanctuary was relocated out of the wildlife sanctuary in April 1986 (1989:249). In 1994, two Mien villages in Doi Luang National Park in Lampang Province were relocated to an upland area outside the Park (A. Ganjanapan 1996:213). McKinnon and Vienne (1989) report that as of August 1988 some 5000 people had been involuntarily moved out national parks in Thailand. No recent statistics have been compiled, but it
can be assumed that the number of people who have been involuntarily resettled is now even higher.

The main purpose of resettlement is purported to be for conservation reasons, but in Thailand, other factors are also at play. Anan Ganjanapun (1996) argues that the resettlement of two Mien villages in Lampang province was not for conservation purposes. He reports:

the stated reason for the resettlement is conservation, but the real motive behind this move tends to be more commercial, that is tourist promotion as the park officials would like to save a waterfall’s environment to attract more tourists (1996:213).

As with most people who reside in protected areas, the people of Sunlight, and to a lesser degree the people of Moonlight, have no security in their homes. The situation is particularly precarious in Sunlight, where there have been persistent rumours that villages in the ONP area will be forcibly relocated. There has been a plan to relocate three Hmong villages that are nearby Sunlight. Supradit (1997) reports:

In 1989, the Agriculture Ministry approved a 180.5-million-baht budget for the Forestry Department to relocate three villages away from watershed areas, which will be rehabilitated. However, not a satang7 of the budget has materialised.

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7 Satang is a Thai currency, and 100 satang = 1 baht.
However, this plan to relocate the Hmong villages was halted by the National Security Council (NSC) for national security reasons (Subin 1998).

The people of Sunlight worry about relocation because none of them have land ownership documents. Without legal documentation, it is very difficult for people to counter charges by ONP officials that they are illegally residing in the park. They are therefore, subject to relocation away from watershed areas at any time.

The people of Sunlight’s control over the future of their village is affected not only by threats of relocation, but also by strict regulations governing the settlement of people in the ONP area. According to Local Administration Laws, people who migrate to another village must register with the local district administration office within 15 days of the departure date. However, the administration office of the district where Sunlight is located, will not permit people from outside the ONP area to register as member of a village located in the park. This prohibition on registrations affects the future of villages located in the ONP area. In Pgak’nyau culture, when a couple is married, the husband moves to the wife’s village. Park regulations create difficulty for people, particularly marriage couples, who need to be officially registered as a member of a village in the ONP area. In Sunlight, there are at least ten people who
are unregistered. The chief of Sunlight claims that these people want to register as member of the village, but are prevented from doing so by local administration officials.

In Thailand, it is very important for people to register as a member of the village where one lives. Some local government services, health care for example, are provided only for local residents. People who are registered elsewhere may use the services, but they may have to pay fees. Infringement on mobility and settlement rights leads to the abuse of the social rights of the Pgak’nyau people (further detail will be provided in the next section).

The government blocks registration for people moving into ONP villages in order to control the high rate of population growth. Tan-Kim-Yong and Boonto (1994) claim that the total population of ONP was 1657 people in 1972, but it had increased to 4509 people by 1993 (see Table 6.1). The population growth rate in 1986 was 6.77 per cent per year in Hmong communities in ONP, while the average ONP population growth rate was 3.21 per cent per year (Tank-Kim-Yong and Boonto 1994). This growth came not only from births, but also from the migration of people from another areas. ONP officials claim that the high rate of migration into ONP villages is a result of poor highland farmers being attracted to development projects in the park.
Table 6.1

Local Inhabitants in ONP 1993

<table>
<thead>
<tr>
<th>Ethnic Group</th>
<th>No of Village</th>
<th>No of Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pgak'nyau</td>
<td>28</td>
<td>3,125</td>
</tr>
<tr>
<td>Hmong</td>
<td>3</td>
<td>1,333</td>
</tr>
<tr>
<td>Khon Muang</td>
<td>1</td>
<td>51</td>
</tr>
<tr>
<td>Total</td>
<td>32</td>
<td>4,509</td>
</tr>
</tbody>
</table>


In Moonlight, the situation is quite different from in Sunlight. There is no immediate threat of resettlement out of the forest reserve. The settlement of Moonlight is quite secure, even though only one plot of land in the village has an official document. People in Moonlight also do not experience problems related to family or household registration at their local district office. However, most people in Moonlight still have fears that one day their village could face a situation like the Pgak'nyau villages in the ONP area.

The Impact on Social Rights

Dahrendoft defines citizenship as "a set of rights and obligations for those who are included in the list of members" (1996:32), and Marshall describes these citizenship
rights as inclusive of political, civil and social components. Marshall writes that social rights cover:

the whole range from the right to a modicum of economic welfare and security to the right to share to the full in the social heritage and to live the life of a civilized being according to the standards prevailing in the society. The institutions most closely connected with it are the educational system and the social services (1965:78-79).

In Thailand, Section 4 of Chapter 1 in the 1997 Constitution states that "the human dignity, rights and liberty of the people shall be protected". Section 5 of the same Chapter goes further to say that "the Thai people, irrespective of their origins, sex or religion, shall enjoy equal protection under this Constitution". However, the social rights of the Pgak'nyau people, as Thai citizens, are not always fully protected. Indeed, conservation policies often lead to the violation of the social rights of Pgak'nyau people who live in protected areas. This next section describes how their social rights have been violated in terms of equitable access to social services and ability to pursue a standard of life similar to that which is prevailing in the larger society.

Restricted Access to Healthcare

All Pgak’nyau people in Sunlight and Moonlight have Thai citizenship. As Thai citizens, they are subject to receive social services such as education, health care and welfare, that are available to all other citizens. One of the most
important social services the Thai government provides for poor people who live in rural areas is free healthcare. Free healthcare has been available for more than ten years, and in theory, all people in Sunlight and Moonlight are eligible because both villages are categorised by the government as poor villages.

However, in practice, not all people are eligible for local healthcare services, particularly the people of Sunlight. This is because there are certain procedures that must be followed in order to receive such services. Before a person can be admitted for free healthcare at a local public hospital, one needs to present the family health card and citizenship card. In the situation where after hour services are required from a hospital, a person must present a letter of reference or a memo from the local public health station, as proof of residence in the service area of the hospital.

The difficulty is that the provincial government issues the free health card to households, rather than to individuals. The card lists all the names of the people who officially live in one household and thus are eligible for free healthcare benefits. The health card system creates difficulty for many people in Sunlight, because they are from elsewhere and have married into the village. As discussed

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8 Most Pถกนิยม villages in Thailand are categorised by the government as poor villages.
earlier, the local administration office does not allow people from outside the ONP area to register as a member of a village in the ONP area. These people who are not officially registered, then cannot have their names listed on their family health cards, and therefore free healthcare is denied to them. Some of them may have their name listed on the health card from their former village, but they cannot carry the card with them because the remaining family members need to keep it in their possession.

**Impeded Community Development Programmes**

The Thai government has a domestic development policy of working towards provision of basic needs to all villages in Thailand. Several government departments are involved in improving the standard of living for the Thai people, including the main four Ministries of Health, Agriculture, Education, and the Interior. Because Thailand is a developing country, basic infrastructure (i.e. roads, electricity and clean water supplies) is the main focus of development activities in remote, rural areas. Agricultural extension programs also play an important role in helping to upgrade the standard of living for the rural poor.

However, rural villages do not receive equal assistance from the government, and there is a distinct bias against providing basic needs for rural villages located in protected
areas. In the last ten years, the conservation policies of the Royal Forest Department have played major role in blocking most development programmes to rural highland villages. Forestry laws, particularly the National Park Act, prevent or impede other government departments from providing assistance to people who reside in protected areas.

The people of Sunlight are victims of conservation policies. These policies have a pervasive effect on all aspects of their lives and impede their efforts to upgrade standards of living. Because of park policies, the government will not provide economic development programs that are available to other rural villages. Agricultural extension programmes are denied and roads to the village are not built. The government also does not provide any basic infrastructure such as electricity or a clean water supply to the village.

During the past two decades, agricultural extension programmes sponsored by the Ministry of Agriculture have played a major role in upgrading the standard of living for many highland communities, including those in the ONP area. However, it was only select villages in opium growing areas close to the park headquarters that received the benefits of agricultural extension programmes. Government priorities in eradicating poppy crops took precedence over conservation concerns and numerous crop substitution programmes were implemented in these few ONP villages. There has been clear
evidence that the standard of living has significantly improved for the people living in formerly opium growing areas of ONP. Meanwhile in the neighbouring watershed, the people of Sunlight have been bypassed by development agencies and programmes.

Roads are an important factor in the development of rural communities, but the government has neglected its responsibilities in providing such infrastructure. Like most villages in the ONP area, Sunlight does not have a good road which connects the village to the outside world. The people of Sunlight have had to dig a trail themselves to connect their village to other roads. The village is accessible by trucks only in dry season and during rainy season, Sunlight is virtually cut off from other villages. Without good a road, it is not feasible for villagers to grow cash crops because they are unable to transport their produce to markets in Thai towns. The inconsistency of government policies can be seen in road construction in ONP territory. In practice, road construction is not completely banned in park areas and ONP authorities have themselves built roads to waterfalls in the park in order to facilitate tourism.

The ban on generation of electricity is another area in which double standards can be seen. The park authority office has access to electricity, as do two of the 31 villages located in the park. The first village is located close to
the park headquarters, and second village is located not far away from Sunlight. The latter village has electricity because a foreign missionary, who runs the local residential school, funded the installation costs.

There are at least five other villages located along the main highway to the park headquarters, but none of these villages have access to electricity. People in these villages can see the electricity lines that pass through their communities, but they cannot use the energy. People from many different villages in the ONP area, including Sunlight, have petitioned the chief of the district electricity office to request the installation of electricity in their village. But the chief had told them that as long as the park does not give permission, the electricity office of the district can not comply.

In Moonlight, the situation is different from Sunlight. The government constructed a road to the village over two decades ago, and in 1997 the road was paved by the Accelerated Rural Development Office (ARD). The paved road makes it easy for villagers to transport their agricultural products to markets. The government also provides electricity and a water supply to the village. The most important thing for the people of Moonlight is that the government established an agricultural extension centre in the village in 1977. This centre has played a major role in improving the
standard of living for the people of Moonlight. The chief of Moonlight claims that the average income of people in the village has quadrupled since the station was established.

The situation in Moonlight may be better, it does not mean that people in Moonlight are without worries. There are signs of difficulties to come. The school principal in Moonlight told me that the school had already received a budget from the Ministry of Education to construct a new building, but then the project was postponed. Because the school is located in a national forest reserve, the construction needs permission from the RFD. The principal claims that he has been waiting for almost one year, but he still has not had any response from the RFD.

The Scarcity of Farm Land

One of the impacts of conservation policies has been to make farmland scarce. There is in fact still plenty of land available for cultivation in both Sunlight and Moonlight, but the use of the land for farming, particularly swidden agriculture, is prohibited in many areas by conservation regulations. Even though both Sunlight and Moonlight are located in forests, the two villages face very different scenarios in terms of land available for cultivation.

As noted earlier, Moonlight faces fewer restrictions than Sunlight in regards to access to government development
programs. The same scenario applies in terms of people’s access to land for farming in the two villages. Because Moonlight is still officially located in a national forest reserve, the people of Moonlight do not face as much pressure from foresters. Indeed, officials responsible for the forest reserve rarely visit the village.

In Sunlight, it is very difficult for people to cultivate forestland, particularly for swidden agriculture. The ONP strictly enforces a ban on swidden agriculture within park territory. Fifteen years ago, most families in Sunlight had at least seven plots of forest fallow for swidden agriculture. Today, all of those swidden fields have been expropriated by ONP. The people of Sunlight can no longer use their former forest fallow because those lands are now considered national forests. The loss of large areas of swidden fields has led to a land shortage for many Pgak’nyau families.

People who cut trees in forest fallow in preparation for cultivation, are often arrested and charged by park officials. So far, no person in Sunlight has been charged, but many Pgak’nyau in nearby ONP villages have been charged for clearing trees in forest fallow. Tan-Kim-Yong and Boonto (1994) report that a Pgak’nyau man from a village not far from Sunlight converted his forest fallow to grow coffee, but he was arrested by park officials and sent to the local
police station. He was jailed for seven days and fined 10,000 baht. Tan-Kim-Yong and Boonto (1994) also report that another Pgak’nyau farmer was arrested and jailed for two years because he cleared his old forest fallow to cultivate rice.

The chief of Sunlight claims that the park officials always arrest the Pgak’nyau for clearing forest fallow, but rarely arrest the Hmong. Pgak’nyau in other villages also provide similar testimony, as Tan-Kim-Yong and Boonto report:

Park officers are unfair because officers control and enforce the Karen strictly but vice versa for the Hmong. Hmong still have plenty of swidden land and was never arrested (1994:4).

Data from Table 6.2 shows swidden land holdings among four selected villages located in the same sub-watershed, one a Hmong village and three Pgak’nyau ones. In 1992, the total swidden land in the Hmong village was 560 hpâsi, with an average size of 11 hpâsi per household. In 1993, swidden land holding in this Hmong village remained the same. Meanwhile, swidden land holding in the other three Pgak’nyau villages decreased at a rapid rate. In Sunlight, villagers cultivated a total of 112 hpâsi of swidden land in 1992, but the entire village total of swidden land was reduced to 20 hpâsi and 16.25 hpâsi in 1993 and 1996 respectively.
Table 6.2

Swidden Cultivation in Selected Villages*

<table>
<thead>
<tr>
<th>Village</th>
<th>Household</th>
<th>Swidden Land</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Year</td>
</tr>
<tr>
<td>Hmong &quot;A&quot;</td>
<td>48</td>
<td>1992</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1993</td>
</tr>
<tr>
<td>Pgak’nyau &quot;A&quot;</td>
<td>27</td>
<td>1992</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1993</td>
</tr>
<tr>
<td>Pgak’nyau &quot;B&quot;</td>
<td>32</td>
<td>1992</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1993</td>
</tr>
<tr>
<td>Sunlight</td>
<td>21**</td>
<td>1992</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1993</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1996**</td>
</tr>
</tbody>
</table>


The drastic decrease in Pgak’nyau swidden holdings and their apparent differential treatment at the hands of park officials arise from the nature of Pgak’nyau swidden agriculture. As discussed in Chapter Two, the Pgak’nyau traditionally cultivate swidden land for only one year, then leave the land fallow for tree regeneration. In contrast, the use of swidden land amongst the Hmong differs because they may use the same plot of land for several years. Keen reports that the Hmong “may use the same poppy swidden for up to twenty years” (1966:37). Kunstadter reports that in Hmong
swidden fields, the “areas that have been cultivated in this fashion, the forest cover almost never returns within a human life” (1978:11). Since there are no trees left in Hmong swidden fields, it is difficult for park officials to charge them with illegal logging. But park officials are able to charge Pgak’nyu farmers because they must cut down trees in their swidden fallow in order to cultivate the land. Strict enforcement of a ban on swidden agriculture has led to a scarcity of farmland and a shortage of rice in most Pgak’nyu villages in the ONP area.

The Shortage of Rice

A shortage of rice has always been a problem for many Pgak’nyau communities in northern Thailand. Before the 1980s, the problem of insufficient rice supplies was not critical because there was plenty of swidden land available for cultivation. Though the mountainous terrain of Sunlight and Moonlight limited the amount of land that could be converted to terraced or irrigated fields, families could supplement their rice production with the cultivation of swidden lands.

Today, the Pgak’nyau in Sunlight may still cultivate wet rice on irrigated land, but it is much more difficult for them to cultivate dry rice or highland rice on swidden land. The ban on swidden cultivation is the main reason for insufficient rice production in most Pgak’nyau communities.

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Elderly people interviewed in both Sunlight and Moonlight, claim that most families in the villages used to produce enough rice for household consumption. Today, according to the informants, over 70 per cent of families in Sunlight and almost 60 per cent of families in Moonlight, do not produce enough rice for their own consumption.

In the case of Moonlight, insufficient household rice production is a manageable problem. The chief of Moonlight reported that twenty years ago, insufficient rice production was a major problem for many families in his village. People would grow both wet rice and dry rice, but yields from swidden land were often low because there were too many pine trees in the area, and soil in pine tree areas contained too few nutrients to grow dry rice.

Today, the people of Moonlight produce even less rice for household consumption than they did twenty years ago. Though almost 60 per cent of families in Moonlight do not produce enough rice for annual household consumption, most families manage to generate enough income to buy additional rice. Families have been able to deal with rice shortages since the government began agriculture extension programs to assist them in growing cash crops. One of my informants in Moonlight told me her story:

My family used to have a major problem with rice shortages because we do not have irrigated land. Actually we used to have an irrigated field, but my father sold it to a wealthier family in the village.
because he was opium addicted. Therefore, we had to rely on rice from swidden agriculture, but mostly this lasted only four or five months. My brother and I had to work as general labour for rice to support my family. Today, the situation in my family is different even though we do not grow enough rice, because we make enough money from growing gladiolas to buy rice.

The chief of Moonlight claims that over 90 per cent of people in Moonlight manage to generate enough income from growing cash crops to buy rice, while fewer than 10 per cent of families in the village still have problems with rice shortages. The chief of Moonlight further believes that the families who have problems with rice shortages, have this difficulty because of drug addiction. There are nine people from six different households in Moonlight who are addicted to heroin. Money that is earned by these addicts is spent on drugs instead of buying rice.

In Sunlight, there is no heroin addiction and the use of drugs cannot be blamed for household shortages of rice. Rather shortages are the result of limitations placed on swidden farming and the lack of government agricultural extension programmes. A village elder in Sunlight told me that before the ONP was established some twenty-five years ago, over 70 per cent of the people in Sunlight produced enough rice for their own consumption. And the remaining 30 per cent were able to produce enough rice to last at least eight or nine months. For these latter families, it was relatively easy to generate enough income from wage labour in
the village or neighbouring villages, to cover the shortage of rice in the remaining months before the new crop. Another source of income for these families who did not produce enough rice came from selling domestic animals or forest products to neighbouring Thai towns.

Today, the problem of food shortage in Sunlight is more critical, because most families can only produce enough rice to last four or five months. Most families are forced to seek temporarily employment outside the village earlier than in the past. A gentleman, who is considered one of the poorest persons in Sunlight, told me that:

The shortage of rice has always been a major problem for my family. My family does not have irrigated land, therefore, we have always relied on growing rice on swidden land. I used to have seven plots of forest fallow, but I am now no longer allowed to cultivate them. The past five years have been a very difficult time for my family. My family used to produce over 100 htaş (1 htaş = 20 litres) of rice from my swidden fields, but this year we managed to get only 50 htaş of dry rice. With a family of five, this rice will last less than three months. I used to have cows, but I sold them all to buy rice.

A limited rice supply has always been a problem in many Pgak'nyau communities. However, with the implementation of government development programmes, such as in agricultural extension, many Pgak'nyau villagers have managed to overcome this problem. The agricultural development programme in Moonlight plays a vital role in helping poorer families deal with insufficient rice production. Conversely, the lack of
development programmes and restrictions on agricultural land use in the national park, have resulted in greater poverty for the people of Sunlight. Sunlight residents have experienced difficulty in dealing with their food crisis, because they have few choices and alternatives to which to turn.

**Conclusion**

This chapter discussed the impact of protected areas on the Pgak’nyau in the two villages under study. Even though Sunlight and Moonlight are both located in protected areas, the enforcement of forestry laws in these two villages is very different. National park regulations have injected insecurity into the settlement of Sunlight, whereas forest reserve regulations have had a more limited effect on the lives of people in Moonlight. National park policies have abused the social rights of people in Sunlight by blocking most development programmes to the village. And a park ban on swidden cultivation has reduced available farmland for most families in Sunlight and resulted in shortages of the rice supply. Conversely, the people of Moonlight receive much in development assistance from the government, including assistance which counters rice shortages.

Conflict occurs in Sunlight because of differing concepts of land use held by the Pgak’nyau and park
officials. Park officials strictly enforce forest laws and view the Pgak’nyau as little more than illegal settlers and wrongdoers. Emphandhu (1992) asserts that most park officials are not local people, but rather are appointees from Bangkok who demonstrate a lack of knowledge about local history and tradition when attempting to carry out the full intent of conservation laws. In opposition, the people of Sunlight believe in their right to cultivate lands located in ONP, because they lived in the area long before the national park was established. According to their tradition, the people of Sunlight see forest fallow as farmland, whereas park officials regard forest fallow as protected areas.

Sunlight appears to have suffered the misfortune of falling within the jurisdiction of the most visited park in Thailand, and thus the most strictly controlled. Tan-Kim-Yong and Boonto (1994) assert that ONP attracted almost one million visitors in 1992, and because the park is the most highly visited in Thailand, more high ranking officials are drawn to observe and inspect park operations. Therefore, locally based park officials need to enforce the laws strictly or face discipline for neglect of their duties. I have visited Pgak’nyau villages in other national parks and can see that the enforcement of forest laws in other areas is less strict than in ONP.
The forests surrounding Moonlight are regulated by much less stringent forest reserve regulations. However, the people of Moonlight still worry about their futures because their area is designated to become a national park in the future. In both Sunlight and Moonlight, people want to remain in their land. In order to survive in protected areas, Pgak’nyau need to respond effectively. The next chapter will discuss how the Pgak’nyau respond and resist government conservation policies.
CHAPTER VII

PGAK’NYAU RESISTANCE AND RESPONSE

This chapter is a discussion of Pgak’nyau resistance and response in the face of government conservation policies. The first section briefly discusses the context of Pgak’nyau resistance. The following three sections discuss how the Pgak’nyau have responded to scarcity in farmland, loss of self-sufficiency and impediments to development programmes. The last section discusses the creation of village networks to refute allegations that the Pgak’nyau are responsible for destruction of forests.

Pgak’nyau and Resistance

According to Guha (1989), resistance can be broadly divided into two paradigms: the Structural-Organisational Paradigm and the Political-Cultural Paradigm. The Structural-Organisational Paradigm is concerned with analysing large-scale historical processes such as imperialism, while the Political-Cultural Paradigm is concerned with large scale economic change. Guha (1989) asserts that under the latter paradigm, economics is not the only determinant of collective action. If this were the case, people living at the margins of subsistence would be in a constant state of rebellion. Rather, Guha suggests that “protest will take place only when
there is a perceived erosion, whether partial or total, of patterns of legitimate authority" (1989:3).

The pattern of resistance amongst the Pgak’nyau in northern Thailand falls within the parameters of Guha’s Political-Cultural Paradigm. There has been no record of resistance by the Pgak’nyau in northern Thailand for political reasons. Instead, resistance by the Pgak’nyau has been over concerns of economic change and the legitimacy of government policies which affect their economy and standard of living.

In northern Thailand, the Pgak’nyau have lived peacefully with other ethnic group for centuries. As an ethnic minority group which does not have political or economic power, the Pgak’nyau have preferred to avoid conflict with government policies or the majority group. A common adage that I hear from elders is that when there is a problem in the south, we must go to the north, and when there is problem in the east, we must go the west. Avoidance has long been a strategy for survival, and in the past the Pgak’nyau of northern Thailand have tried to isolate themselves by living in mountainous regions.

Prior to the 1980s, there were rarely any recorded instances of Pgak’nyau resistance to government policies. Since that time, more cases of resistance have occurred, mostly in reaction to economic hardships resulting from
government policies. One of the earlier recorded instances of major resistance against government policies occurred in Mae Sariang District of Mae Hong Son Province in 1984. Resistance arose out of growing concerns over shortages of water for crops. The Pgak’nyau in Mae Sariang protested to have the government rescind permission for a lumbering company to cut trees in their watershed, as the area was the main source of water for their crops. Protesters used several strategies, including blocking the main highway connecting Mae Sariang to Chiang Mai. The protests finally succeeded in 1987, when the Minister of Agriculture and Cooperation investigated the situation in Mae Sariang and ordered the cancellation of logging in the area (Panicharoen 1993:94).

Since the Mae Sariang case, more protests have been organised by the Pgak’nyau due to the expansion of protected areas into their land. However, protests and resistance are not the only ways in which they have responded to changes in government conservation policies. Because most Pgak’nyau want to remain living in their native lands, they have had to adapt their way of life to cope with the changes. They have adapted their land use patterns to make their practices more compatible with government conservation policies. And many Pgak’nyau communities have joined a watershed network to strengthen community resource management system and to prove that they can live peacefully within the forest environment.
Land Use Adaptation

The scarcity of land available for farming is currently a grave concern in Pgak’nyau communities, because of the combined pressures of restrictive conservation policies and population growth. Because most Pgak’nyau want to remain in their traditional land, they have had to adapt their agricultural practices in order for them to survive. One of the most significant adaptations has been to adopt the growth of cash crops to generate more income. Another major adaptation has been to convert swidden lands into irrigated fields or fruit orchards.

Irrigated Land

Traditionally, irrigated land was mainly used to grow wet rice. Wet rice was grown only once a year during the rainy season and after it was harvested, the paddy fields were left vacant over the summer. In some Pgak’nyau communities, farmers grew tobacco after the rice season, but this was only on a very small scale. Generally during the dry season, paddy fields were only used to graze cattle (see Figure 17).

Today, irrigated land is used much more intensively and for various purposes. Now paddy fields are cultivated year round, and used not only for growing wet rice, but also for growing many different kinds of crops such as garlic or
flowers. Most Pgak’nyau people in the study areas still grow wet rice as the main crop during the rainy season, but after paddy rice is harvested, they grow other crops.

The people of Sunlight still largely follow traditional agricultural practices in their irrigated fields. Wet rice is grown as the main crop during the rainy season, and small-scale cash crops such as soybean and garlic are grown during the dry season. A key informant in Sunlight told me that most poor families in the village do not want to invest heavily in cash crops because of the high risks and unstable markets. It is also not feasible for residents to grow cash crops on a larger scale because most of Sunlight’s paddy lands are located in a steep valley that is inaccessible by trucks.

The people of Moonlight have more easily adapted to limitations on cultivatable land. They have changed their patterns of land use and now most irrigated lands in the village are used intensively throughout the year. They are able to do this because the village has a good irrigation system. The reservoir built by the Accelerated Rural Development Office (ARD) in 1978, has a capacity of 400,000 cubic metres and allows people to grow crops during the dry season.

Most families in Moonlight continue to grow paddy rice during the raining season. Only nine households report not growing any rice at all, and of these households, eight do
not possess any irrigated lands. During the dry season, a few farmers will grow a second crop of paddy rice, but most do not because too much of the yield is lost to insects and birds. Most families now earn income by growing cash crops during the dry season, if not all year round. In the two decades that a highland development programme has been introducing new fruits, vegetables and flowers to Moonlight, cash crops have taken an increasingly important role in the village economy. In fact, a few families have stopped growing rice completely since adopting cash crops. Some families earn over 100,000 baht a year from selling cash crops.

**Permanent Gardens**

Traditionally, permanent gardens were only to grow fruits and vegetables for household consumption. However today, permanent gardens are also used to grow cash crops. Like cash crops grown in paddy fields, the products of permanent gardens have become important to the economy of Moonlight. Traditionally, permanent gardens were located mainly in the household compound, but now many farmers have converted former swidden lands located away from the village into permanent gardens. In Moonlight, farmers now use permanent gardens to grow avocado, persimmons, pears, peaches and other fruit trees adopted from temperate climates, but
they also use their permanent gardens to cultivate short-term cash crops.

In Sunlight, the ability to expand permanent gardens to cope with a scarcity of land is limited by national park policies. Most permanent gardens in the village continue to be located within household compounds and cash crops have only a limited role in the village economy. Permanent gardens in Sunlight are still mainly used to grow products for household consumption and to meet subsistence needs.

Swidden Land

Even though swidden agriculture is considered an illegal practice in national parks, it is still an important means of food production for people in Sunlight. Villagers need to continue using swidden lands to grow food, so they have adapted their methods of cultivation in order to cope with park restrictions. Traditionally, swidden fields would be left fallow for seven to eight years before a new crops was cultivated. However with new park restrictions, the people of Sunlight now repeatedly cultivate the same field year after year.

One of my informants in Sunlight told me that he does not want to repeatedly use the same swidden field every year, because this will deplete soil nutrients and prevent trees from regenerating. But he has no choice because park regulations prevent him from cultivating forest fallow.
Because villagers can no longer use forest fallow, they try to convert existing cultivated swidden fields into terraced lands or permanent gardens.

Currently, most swidden lands in Sunlight are located near terraced fields. This is not a normal phenomenon in the swidden agriculture system, but rather it reflects a coping mechanism to deal with park restrictions. A key informant in Sunlight explained why he practises swidden agriculture so close to terraced lands:

Traditionally, we only practised swidden agriculture in forest fallow, but today it is impossible for us to do so. Park officials do not allow us to cultivate forest fallow or anywhere with trees. However, they unofficially let us cultivate terraced lands. Therefore, the only way we can survive is to expand our terraced fields by converting nearby swidden lands. Most people try to clear forests beside their terraced lands so that they convert it in the future.

To a very limited degree, people in Sunlight manage to circumvent a complete ban on tree cutting in the park. They do so surreptitiously by clearing small areas. The same key informant explained:

Actually, foresters do not allow us to clear trees near our terraced land, but we cut trees secretly. From my observation, park officials come to our village only once a week and mostly on Fridays. Therefore, we do not cut down trees on that day. They also told us that when we see them while cutting down trees, we have to run or they will arrest us. I also know that they do not like us cutting down trees in large areas because it is easy for them to see. But if I cut down trees in smaller areas, they will not pay much attention to it. I spent almost two years cutting down trees on swidden land beside my terraces. The cleared land is less than 3 hpâ si but I plan to convert it into terraced fields in the future.
Besides converting swidden land to terraced land, some farmers in Sunlight have also converted their swidden lands to permanent gardens. One of my key informants explained:

I still had two pieces of swidden land. One piece is located close to my terraced field so I plan to convert it to terraces in the near future. I could not do this with the other piece of land because it was not accessible to irrigation. So I converted it to a permanent garden and planted fruit trees and spices.

In Moonlight, the situation is very different from Sunlight because villagers are not pressured by conservation laws into abandoning swidden agriculture, but rather, they do so because alternative means of livelihood are available to them. In Moonlight people, too, have adapted their agricultural practices, and even though they no longer practice swidden agriculture, most of them have kept some of their former swidden lands by converting them to terraced fields or permanent gardens. People prefer to convert the swidden plots that are located close to the village because of the greater easy in tending the land. In contrast to the situation in Sunlight, the government has provided assistance in Moonlight to convert swidden fields to terraces and orchards through the Land Development Department (LDD).

**Response to the Loss of Food Self-Sufficiency**

As discussed in the previous chapter, rice production in both Sunlight and Moonlight has been greatly reduced because
of the decline of swidden agriculture. The Pgak’nyau have responded to their inability to produce enough rice for household consumption in a number of ways. One of the responses has been to expand their terraced rice fields, but this strategy faces limitations. In the case of Sunlight, the expansion of rice terraces is limited by national park policies, whereas in Moonlight, the expansion is limited by the availability of water to supply crops. People in both villages have also responded by growing more cash crops to earn income for rice purchases. However, cash crops are not the answer for many poor families, because they do not have the capital to invest in growing the crops. The lack of a good road in Sunlight also limits villagers’ ability to grow cash crops because of the difficulty in transporting products to markets.

Because many farmers have less land for farming, another response has been to seek temporary or seasonal employment outside their villages. The main agricultural season begins later in lowland areas because of differences in altitude and temperature, and many activities take place year round. This allows the Pgak’nyau to seek temporary employment in neighbouring Thai towns during the off-season. Many rural Thai communities are facing labour shortages in agricultural production, because their young people prefer to work in shopping malls or factories in the cities, where the nature
of the work is lighter and a higher income can be earned. This creates an opportunity for people in Sunlight and Moonlight to find temporarily employment in agricultural production in nearby Thai towns. Various jobs are available to them, such as collecting longan fruit, planting rice, garlic or onions, and harvesting rice. It is easier for people in Moonlight to take advantage of employment opportunities in Thai communities because of the better road connections to their village.

The Pgak’nyau find employment not only as seasonal labour in agricultural activities, but they work in other sectors as well. There are currently nine people from Sunlight who work in Thai towns and most of them are considered unskilled labour. Four of them work as gardeners in a resort in Chiang Mai, three work in restaurants and one is a babysitter in a nearby Thai town. Only one works in skilled labour, as an assistant electrician in Bangkok.

Many people from Moonlight are also working in Thai towns and cities, and because there are more educated people in the village, some of them have gained white-collar jobs. Three educated people from the village are teachers. Another four earned a degree or diploma in agriculture and are working for agricultural projects. One has a job as a public health worker. And one family has permanently moved to Chiang Mai. The husband works in a hospital as cleaner, while his
wife teaches at a kindergarten school. Less educated young people from Moonlight often work temporarily or seasonally in gas stations, restaurants, resorts or factories.

Wage employment has become a crucial source of income for most poor families. Wages allow them to generate cash income to cover shortages in rice production. Most elder people prefer to seek temporary or seasonal employment in nearby Thai towns, while more young people want to seek full-time jobs in major cities.

Response to Impediment of Development Programmes

As discussed in the previous chapter, government development programmes to assist Pgak’nyau villages have been blocked in the ONP by park authorities. Because they cannot rely on the government for any services, the people of Sunlight have responded by organising self-help projects and making requests for support to non-governmental organisations (NGO).

Villagers in Sunlight have demonstrated a great deal of self-reliance by digging roads and installing running water themselves. They had repeatedly requested the government to provide them with basic infrastructure, but to no avail as the ONP blocked most government development activities in the park. The people of Sunlight then joined with other Pgak’nyau villages in the area to dig their own road to connect their
villages to one of the closest paved roads. It took people of Sunlight and their neighbours almost three years to complete the road. The chief of Sunlight told me that building the road took many years because people did not have appropriate equipment. They used only locally available tools to build through an area that had steep slopes and many rocks. Also, people were occupied with earning their livelihoods and could only work on the road during their spare time. And lastly, they had to build the road bit by bit so as not to attract intervention from park officials who would enforce the ban on development of any type in the park. Now that the road has been built, villagers are able to reap the benefits, which include greater ease in carrying products to Thai markets and carrying sick people to the hospital.

In addition to building the road, other self-help projects have been implemented in Sunlight. A running water system was installed without any government support. An Irish NGO provided funding for the supplies (PVC pipes and adhesives), while people in the village assisted each other in installing the pipes.

In the absence of government services, the people of Sunlight have found alternatives in the programmes of various NGOs. So for example, Christian Children Fund (CCF) and the Chiang Mai Diocesan Social Action Centre (CDSAC) are two other NGOs involved in community development in Sunlight. The
CCF has provided education funding for children in Sunlight for more than 10 years. The CCF assists over 20 children in Sunlight, providing a very important source of funds for the subsistence of children in village.

Besides the CCF, the CDSAC, a Catholic development organisation, also plays a crucial role in the development of Sunlight. The CDSAC funds a number of development projects in the village, the most important one being a rice bank. The rice bank helps people deal with rice shortages, by allowing them to borrow rice from the bank at the start of the rainy season with a low interest rate. Borrowers must return the rice plus interest after the harvest season. The management of the rice bank is the sole responsibility of people in the village. There is a village committee who takes responsibility for the management of the rice bank.

In Moonlight, there is also a rice bank in the village. The Catholic Church has funded a rice bank in the village since 1970. The rice bank charges a low interest rate to help poor people to meet their rice requirements. The church was the first organisation to provide development activities for people in Moonlight.

**The Watershed Network**

Traditionally, each Pgak'nyau village manage its own natural resources within the village territory. As described
in Chapter Five, each village has its own council of elders to look after the use and management of natural resources. However, with the intervention of the RFD, elders councils have lost most of their power to manage the use of forests within the village territory.

During the past ten years, in response to government conservation policies, many Pqak’nyau communities have set up a new system for forest management. They have formed new organisations that bring together young educated people and village elders from different villages in the same watershed or district, creating networks of villages that work together on particular issues. Currently, several indigenous forest management organisations are active among the Pqak’nyau in northern Thailand, including the Highland Conservation Group (HCG), the Mae Wang Watershed Network (MWWN), the Mae Khan Watershed Network (MKWN) and the Highland Watershed and Wildlife Conservation Club (HWWCC).

The new organisations blend the traditional with modern forest management practices. They have worked to develop rules governing the use of natural resources. These new regulations and land and forest classifications are based on traditional systems, but are now documented in written terms more compatible with scientific forestry, instead of only being communicated through oral tradition. Each community sends two or three representatives to the network or group.
council meetings. They meet every two or three months to share knowledge and discuss problems that have occurred in their communities. Both the villages of Sunlight and Moonlight have joined these types of networks.

The HCG was founded in 1989 by a group of educated people in the area in response to high levels of conflict with a lowland conservation group in the area. The HCG brought together educated people and local leaders in the area to discuss their current problems. The main issues were land use and forest management problems. After the first meeting, the group came to the conclusion that a network of communities was required because many problems could not be solved at the village level.

One of the co-founders of the Highland Conservation Group told me that the Pgak’nyau needed a new management organisation in order for them to continue living in the forest. He related how in the past ten years, there had been a high level of conflict over resource utilisation between the Pgak’nyau people in the areas with not only the park officials, but with also the lowlanders. Park officials blamed the Pgak’nyau for illegally cultivating land in park territory and lowlanders blamed them for the decrease of water flowing into lowland areas. Therefore, the Pgak’nyau people in the area needed to work together to create a better
understanding between the highlanders and the lowlanders, as well as with government officials.

The Mae Wang Watershed Network (MWWN) was formed more than ten years under similar circumstances as the HCG. The main purpose for establishing the network was over concerns about the expansion of protected areas in Pgak'nyau communities which created difficulties for local people.

The conservation groups and watershed networks have many different activities. The main ones include establishing rules and regulations to systematise the use of natural resources, classifying land and forest utilisation by developing land use maps and three-dimensional models, preventing forest destruction, and lobbying local government officials to recognise Pgak'nyau land use rights.

These activities are carried out by volunteer committees. At the village level, there is a committee to look after the use of resources within the village territory. Normally, the committee members are comprised of the village chief, deputy chiefs, and five to eight other members selected from the villagers. At the group or network level, each village will send two or three representatives to represent the village in meetings that are held three to four times a year.

The conservation group or watershed network sets up rules and regulations, which are written down on paper. All
villages in the network will follow the same rules and regulations. The details adopted by different conservation groups or watershed networks may vary, but they use similar concepts and methods in working to protect natural resources within the network territory. The group or network classifies forest and land into three main categories: untouchable forests; usable forests; and habitat land, which includes farmland. The group or network also uses land use maps and three-dimensional models to document boundaries of each category. Maps and models make it easier for outsiders, particularly city dwellers and government officials, to see a larger picture and understand how the Pgak'nyau use and manage forests surrounding their community. Land use mapping and three-dimensional models have been widely used as implementation tools among indigenous networks since the 1990's after the success of the Upland Social Forestry Pilot Project (USFPP). The USFPP was a joint project between Chiang Mai University and the Sam Mun Highland Development Project which tried to promote joint forest management between local people and forest officials.

The network or group plays important roles in the prevention of forest destruction. They will not allow outsiders to cut down trees within the group or network territory and they work to prevent forest fires. During the dry season, villagers will build fire control lines or fire...
breaks around their community to prevent forest fires. In the case that a forest fire does spread, villagers will fight the out of control forest fires. Because they make a contribution towards controlling forest fires, park officials do show some goodwill towards local people.

Another important activity of the conservation groups and networks is to lobby local government officials, such as district and forestry officials, to recognise the rights of local people in forest and land utilisation. The lobbying of local officials has had some successes because some foresters see the necessity of joint forest management between local people and foresters. However, local foresters can only agree unofficially to joint forest management. They have no authority to legitimise the joint system.

The Inter-Watershed Network

Before 1994, each conservation group or watershed network worked separately from each other to solve their problems. The main focus of each conservation group was to deal with local government officials. However, most of their problems cannot be solved on the local level since local government officials do not have enough authority to change policy or laws. Therefore, members of many conservation groups and watershed networks have came together to discuss and share their problems. After several meetings, leaders of
these groups came to the conclusion that there were numerous
issues that could not be solved in isolation and that a
broader co-operative framework was required. In early 1994,
the idea of establishing an organisational framework for
mobilisation beyond a single watershed, that involved
alliance with groups other than fellow villages, came to
fruition with the formation of the Northern Farmers'
Development Network (NFDN) (Narintaran&kul 1996:142). The
Pgak'nyau are not the only members of the new network, and
they have been joined by lowland farmers and other highland
groups. Academic scholars at Chiang Mai University and staff
from NGOs have also played major roles in assisting the NFDN.
Narintaran&kul reports that three levels of
mobilisations were developed as part of the NFDN framework.
They would mobilise at the village, watershed network, and
legal and policy levels. At the village level, there are two
main activities: firstly, to inform the community of state
policy and its local implications, and secondly, to establish
conservation groups to systematise the use of natural
resources and to prevent environmental destruction. At the
watershed level, different villages aim to co-ordinate and
cooperative on a range of issues. Policy level mobilisation
occurs with activities at the first two levels (1996:143-
144).
One of the most important roles of the NFDN has been to join with other organisations to lobby the government to recognise the coexistence of people and nature. Members of the NFDN believe that the coexistence of people and nature is possible with community commitment and indigenous knowledge of sustainable use of forest resources. Narintarangkul (1996) reports that limited success in dealing with local officials has let the NFDN establish a policy of not lobbying locally, but rather to target the Minister who controls the forestry department. In addition to negotiating with the government, the NFDN has also mobilised thousands of its members to join other protesters from the Assembly of the Poor to fight for the indigenous people's ancestral land rights (Sukrung 1997).

Lobbying by the Assembly of the Poor and other farmer networks resulted in some success when the Chavalit government passed three cabinet resolutions in April and May, 1997 to allow environmental-friendly communities to stay in forests. Summaries of significant sections of the Cabinet resolutions include:

- The Cabinet accept the claims of the Committee of Land Delineation that occupancy predates the declaration of Protected Areas such as National Parks, Sanctuaries and Watershed Areas. If pre-occupancy can be proved, by means of permanent settlements and farming observed, land rights and it titles should be presented.
- During the process of proving land rights, relocation of communities must be stayed.
- During the process of proving land rights, if any actions of the communities are seen to be a threat to the environment of forests, such as the extension of farming
or activities such as logging, the government may use existing laws to deal with this.

- The people given rights to the land must be the people who are permanent occupants of the area.
- The issuing of land rights will only occur if the following criteria are met:
  - Possession of the official documents Sor Kor 1, Por Bor Tor 5, Home Certificate, or any document which shows the history of the occupancy.
  - Evidence of permanent land use such as buildings, fruit trees and annual or long term plants.
  - People in the community are able to give witness to the fact of occupancy over a long period of time (cited in IMPECT 1997).

These cabinet resolutions were likely to have opened the way to official recognition of the existence of local people in protected areas. But hopes of local people were dashed when the Chuan government came to power and revoked the three cabinet resolutions in June 1998. Therefore, the Pgak'nau and other farmers have to begin the entire process again.

In addition to lobbying the government, the NFDN also aims to influence policy and build relationships with Thai lowlanders through other activities. The NFDN plays an important role in organising the performance of a ritual called "lù pgà" or "forest ordaining" among its members. The main objective of this ritual is to forge coexistence between people and forests in what is known as their community forest programme. Tree ordination rituals are performed in forest delineated as conservation forests, where people are not allowed to cultivate, hunt or cut trees.
Figure 24 Ordained Trees
In the ritual, trees in the lù pgà area are tied with yellow robes (Buddhist monk robes) or ta lai au (a taboo symbol made from bamboo) to mark the area for strict conservation (see Figure 24). The lù pgà is adapted from a traditional Pgak’nyau ritual called “lù pgà”, which was performed before each farming season to ask spirits to protect the forests and to curse those who destroyed them. The lù pgà ceremony is not only performed in Pgak’nyau villages, but also in lowland areas where it is known in Thai as “buad paa”. When the Pgak’nyau perform the lù pgà ceremony, other villages, as well as city dwellers and government officials, are invited to attend. The ceremony provides an opportunity for lowlanders and government officials to visit Pgak’nyau communities and see the actual forest situation in the area. The ceremony rotates from one village to another, and thus also allows Pgak’nyau from different villages to see each other and discuss their problems regarding forestry policies.

There is some controversy over forest ordaining ceremonies. Some of conservation groups claim that the trees are already in government protected areas, so there is no reason to declare the tree-ordained areas as “protected”. However, this ritual at least creates some positive images of Pgak’nyau forest management amongst the city dwellers and
government officials who attend the ritual in Pgak’nyau communities.

Conclusion

This chapter has discussed how the Pgak’nyau have responded to conservation policies at the household, village and watershed levels. In the household level, individual have responded to the difficulties by adapting land use practice, adopting more cash crops and seeking wage employment. The Pgak’nyau in Sunlight and Moonlight have adapted land use practice by converting their former forest fallow into irrigated fields or permanent gardens. They are also trying to generate more income by growing cash crops to cope with the loss of rice production resources. Seeking employment opportunities is another important way to deal with hardship in their communities. However, it has been relatively easier for people in Moonlight to adapt their way of life to fit with the government conservation policies, because the government provides services and development programmes to the community. In contrast, adaptation has been much more difficult for people in Sunlight because they receive less support from the government and conservation policies are more restrictive in national parks.

In the village level, each village has set up new committees to look after the use and management of natural
resources. Documented rules and regulations have been established to manage the use of resources within the village territory. Each village plays an important role in preventing forest destruction. This includes making fire breaks surrounding the village to prevent forest fires and blocking outsiders from destroying resources in the village territory.

At the watershed level, each village sends representatives to join other villages in a conservation group or watershed network. The network creates a forum for its members to discuss and solve common problems, and it also builds bargaining power vis-a-vis local government officials. Recently, many watershed networks have come together to form a larger framework to negotiate with the central government ministries to solve their problems. There has been some success in negotiations with the central government, but the instability of the political situation in Thailand requires that any previous effort be restarted with a change in government.
CHAPTER VIII

CONCLUSION AND RECOMMENDATIONS

This research described the resource management system practised by the Pgak’nyau in Thailand and the effects of government conservation policies on both these practices and on Pgak’nyau traditional ways of life. The research has analysed the effects of conservation policies by comparing the current situation in two Pgak’nyau villages, one located in a strictly regulated national park and the other located in a national forest reserve. This final chapter highlights some concluding thoughts on the Pgak’nyau resource management system and their response to government policies. It also provides possible approaches to resolving the issues and problems in protected areas.

Conclusion

The Pgak’nyau people have lived in coexistence with surrounding forests for centuries. They have developed village structures and codes of practice that have allowed for successful management and use of natural resources within village territories. Villagers have had control and security of tenure over land and other resources. Every family had equal access to resources and there were very few disputes
amongst villagers because of the low population and plentiful resources available.

However, the traditional way of life for the Pgak’nyau people began to undergo major changes in the 1960s when the government passed forest and wildlife acts, including the National Park Act, National Forest Reserve Act and Wildlife Sanctuary Act. These Acts were a result of increasing government efforts to control and conserve natural resources. Forests surrounding the communities of Sunlight and Moonlight, which were once considered communal property, became designed as protected areas. In most cases, there was no proper surveying done of the area, and forest officials informed local people through the Kamnan (Sub-District Chief) only after the fact, that their land had been declared a national park or forest reserve (Narintarangkul 1996). When their villages were first declared protected areas, there was no opposition from the Pgak’nyau because they knew little about the consequences of living in a protected area and they lacked the education to be able to oppose government policies. When these areas were declared protected areas, the government degazetted only irrigated lands and residences, but did not exclude swidden lands which were an important part of the agricultural practice of the Pgak’nyau. Local people were supposed to have been issued land documents for the degazetted areas, but only one plot of land in these two
villages was given a document. The main reasons for not obtaining land documents were that most people did not realise their necessity and villagers also did not have the means to pay the fees requested by corrupt officials for granting the document.

The expansion of protected areas into Pgak’nyau lands has resulted in the decline of local traditions in the use and management of forests. In particular, the creation of strictly regulated national parks has severely affected traditional ways of life and created undue hardship in many Pga’k’nyau communities, as evidenced in the village of Sunlight. The ban on swidden agriculture in the park reduced the size of farmland for many families who already had a marginal subsistence. As a result, these families in Sunlight have lost any possibility for food self-sufficiency in the production of rice staples. Park conservation policies have also injected insecurity of land tenure into the lives of villagers, who now live under the threat of forced relocation. The village of Sunlight existed well before the creation of the park, but now its residents are considered illegal settlers under forest laws because they do not possess legal documentation for land ownership.

Park authorities also block government development programmes to Sunlight and most other villages located within park territory. This has prevented the people of Sunlight
from having access to government infrastructure and services such as roads, electricity and agricultural extension programmes. The absence of adequate roads and agricultural programmes has made it difficult for people to improve their standard of living. The antipathy of park authorities towards any hints of growth or development has additionally created an underclass of people without full citizenship rights. People who marry into the village, as is traditional for husbands, cannot register as members of village and thus, are effectively denied access to public healthcare. These impediments have relegated people in Sunlight, as well as most Pgak’nyau villages in the national parks, to lower standards of living in comparison to villages located outside parks boundaries.

In contrast, Pgak’nyau villages located outside national parks have had a better quality of life because there is more flexibility in how villagers can use natural resources. Moreover, the government has provided development programmes which have them helped them cope with changes. Highland development projects, such as in agricultural extension, have brought positive changes to many Pgak’nyau communities. The evidence is clearly seen in Moonlight, where an agricultural project has improved the living standard of local people. People in Moonlight have found a balance between keeping traditional practices and adopting modern developments. They
have stopped practising swidden agriculture, but continue to cultivate wet rice for subsistence and they grow cash crops for extra income.

Though villagers in Moonlight have enjoyed a higher standard of life in comparison to people in Sunlight, they too have fears for their future. Their apprehension is due to RFD plans to create a new national park that will cover all of their village territory. They are concerned that they will face a situation that is similar to what has occurred in Pgak’nyau villages located in other national parks.

Even though, the Pgak’nyau who live in national parks face difficulty, they want to remain in their native lands. They have responded to park pressures by improving their terraced fields in order to grow more rice to meet subsistence needs. Many people are seeking employment both inside and outside their villages in order to earn income to support their families. They also seek external assistance from non-governmental organisations. And many Pgak’nyau villages have formed conservation groups or watershed networks to deal with local government agencies. They have also expanded these organisations to form inter-watershed networks to deal directly with the central government in Bangkok.
**Recommendations**

This section makes recommendations on possible ways to resolve conflicts between local people and government policies over natural resource management and use. There are three recommendations for possible means of sustainable development in protected areas: providing land tenure, improving the standard of living, and legitimising joint forest management between local people and government officials.

**Providing Land Tenure**

The government should provide legal documents for land occupied by local people. The provision of land tenure is very important to the Pgak’nyau people because it will get them security in land tenure and allow them to develop and use their lands efficiently. The Pgak’nyau of Sunlight and Moonlight have resided in the area long before the establishment of protected areas, and this is even documented in government materials such as the National Forest Reserve Map and National Map. The government should provide land use holders in degazetted areas with the NS3, because local people have full rights to obtain this legal documentation. The government should also extend the issuance of land use certificates to outside degazetted areas by granting the *Sor Por Kor (SPK4-01)* for land under permanent use.
The *SPK4-01* is issued by the Land Reform Office (LRO) and it can be issued for up to 50 rai. The Ministry of Agriculture and Co-operatives (MOAC) reports that the LRO has already declared that land in 69 provinces, covering an area of 40.16 million rai or 642,560 hectares, has been designated for land reform (MOAC Website, 1999). As of 1998, *SPK4-01* documents have been issued to 683,448 farmers in Thailand, covering an area of 11.76 million rai (MOAC Website, 1999).

Besides the *SPK4-01*, there is another programme issued by the RFD called the *"Sor Tor Kor" (STK)*. Apichatvallop and Haftner report that the objectives of the STK are:

1) to grant agricultural land entitlement in reserved forests
2) to promote reforestation and conservation of degraded forest land
3) to improve relations between officials and local residents
4) to discourage repeated migration and encroachment on reserved forest land (as cited in Boonto 1992:174).

STK documents issued by the RFD allow the holder to live on and farm the land without ownership rights, but the papers can be transferred to next of kin. The STK can be issued for no more than 20 rai. As of 1985, STK documents have been issued to 366,517 farmers in Thailand, covering an area of 3,799,656 rai or 607,945 hectares (Pragtong 1985:249 as cited in Boonto 1991:175). However, the STK allows for fewer privileges than the *SPK4-01*, because one of the implications
of the STK is that the land remains a part of the forest reserve and its use is subject to the RFD conditions. The SPK4-01 has additional benefits over the STK because the government will provide basic infrastructure to the area, as well as assist farmers in developing the lands.

The provision of land use rights should not be limited to irrigated land, permanent gardens and the household compound, but it should also be extended to cover swidden fallow. This is because swidden fallow has been an important resource for growing food. Government recognition of swidden fields will allow poor families to have some land that they can convert to irrigated fields or permanent gardens in the future.

Improving Standard of Living

Strict national park conservation policies and the impediment of development programmes have clearly lowered the living conditions of people in Sunlight. In contrast there is strong evidence that people in Moonlight have attained a better standard of living due to development programmes provided by various government departments. The impoverished conditions in many villages will force families to migrate to large cities. The migration of poor farmers into cities such as Bangkok has already shown that relocation of the rural
poor is no solution, and that poor farmers may bring as many problems to the urban environment.

The government should change its policy of blocking development programmes to villages located in protected areas. The living standard in these villages should be improved with the provision of basic infrastructure such as roads, electricity and clean water supply. The government should also reduce economic hardship by demonstrating equity in agricultural programmes provided to highland villages. Further, the government should make it easier for highland people to access public health care and education.

In areas where there is conflict between highlanders and lowlanders over water use, such as in Sunlight, the government should provide agricultural extension programmes that give highlanders alternatives for land use. As in Moonlight, encouraging the growth of temperate climate fruit trees in Sunlight is a viable option. Fruit trees require far less water than the cash crops that villagers are forced to grow in an attempt to earn extra income.

Growing fruit trees has the potential to reduce conflict over water use, and in allowing villagers to grow them in swidden fields located close to the village, the government can also save money in the area by ending often vain attempts at reforestation. One of the main trees planted by reforestation programmes in northern Thailand is pine,
because it is less expensive and has higher survival rate than other trees. However, the cost effectiveness of pine is often short-lived, because pine needles catch fire easily. Every year during the dry season, large tracks of pine forests are lost to fire, fires which are controlled and put out at huge expense to the RFD.

Legitimisation of Joint Forest Management

The government should legitimise the role of local people in joint forest management. Forest dwellers have been lobbying for this for a decade, but there has been no success due to political instability in Thailand. In April, 1996 the Banharn Cabinet had approved a draft of the Community Forest Act which gave local people a greater role in forest management, but the Act was never adopted because the Banharn government dissolved Parliament. The current government should rectify the situation and pass the Community Forest Act, because the Pgak’nyau have proved that they can protect and manage forests themselves. There is convincing evidence from Moonlight that the Pgak’nyau will conserve forests of their own volition. Foresters have had limited presence and virtually no role in the protection of forests around Moonlight, but the quality of forests surrounding the village is as good as in Sunlight where national park authorities strictly regulate forests. In practical terms providing a
role in law for joint forest management would allow Pgak’nyau villagers to be more effective in managing forests surrounding their village. For example, currently in Moonlight, when an outsider is found intruding in forests designated for conservation, villagers are unable to act because they possess no legal authority.

In moral terms, legitimising joint forest management would be the principled course of action for the government. Joint forest management would be but a first step for the government to take in acknowledging the legitimate claim that the Pgak’nyau people have to the lands on which they live. And it is imperative that the government does recognise these claims for the good of the Pgak’nyau people, as well as the Thai nation. Because for the government to dismiss occupational rights and deny to the Pgak’nyau the forests that shape almost all aspects of their identity, is to in effect disenfranchise them of their political, civil and social rights. Politicians and other members of Thai society need to ask themselves how disenfranchising a segment of the population of their citizenship rights fits in with the progressive political developments that Thailand has undergone in recent years. The Pgak’nyau have lived in and protected forests for generations, and it makes political and environmental sense for them to continue.
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APPENDIX A

THE ORIGIN OF THE PGAK’NYAU

According to tradition the homecountry of the Karens was the land called by them ‘Htee-Hsein-Men-Ywa’ – “Water pushes sand flows”. It means that it was a land that sand moves or flows as a river – The River of Sand. Perhaps it might be the Gobi desert which is directly towards the north. That region is in Mongolia. Thus it seems that the Karens came from Mongolia, and they were a tribe of the Mongolian race. It was as such that the Karens were described by a great many historians as an off-shoot of the main race of the Mongolian race.

THE FIRST MIGRATION OF THE KARENS INTO BURMA

All western historians and the missionaries working among the Karens had mentioned that the home of the Karens was in what (to the Karens) was known as Kaw Si or the Country Si. Probably Sinkiang, a region in western China that was before they came into Burma. The Chinese and the Shans have stated that the river Yangtze came from the country of the Yang (The Yang or the Karen). This plainly shows that the Karens or the Yangs or the Carians had lived somewhere in the west of China in the region where the Yangtze takes its source.

The Karens entered Burma along three routes:

(1) The Mekong valley route
(2) The Irrawaddy valley route
(3) The Salween valley route

(1) The Mekong river rises in Tibet and flows through China down south through Laos, Cambodia and enters the Gulf of Thailand. Some history books mentioned that the Karens established cities and government in Chiang Mai
but they were overthrown by the Thai, and Karens moved into the mountains, to Mae Sariang and across the other side of the Salween.

(2) The second migratory group followed along the valleys of the Shwe-li and the Irrawaddy. The Pwo Karens built the town of Prome (Pwo-Wai -meaning 'the Pwo-town') Some went down south to the Irrawaddy Delta, to such places as Ma-u-bin, Bassein, Myaung-Hya, etc.

(3) The third group entered what is now known as the Shan State, moving down to southern Shan State. They are here known as the Pa-o Karens. Some stayed on in Karenni State( The Red Karens). Some of this group went westward to Toungoo, Shwe-Gyin, Thaton, Moulmein, Ta-vo and Mergui.

Karen tradition has it that the first migration of the Karens was in the year 1125 B.C. and the second one was in 739 B.C. They were the first migratory group to arrive in this region now called Burma. In those days, according to Karen tradition the seashore was at Prome (then called Proway). The Karen calendar year is 739 - the year of our Lord 1939. A.D.1939 was the year the Government of Burma recognized and confirmed it. Thus the Karen year this time (1977) will be 739 + 1977 = 2716 . The 739 was the year 739 B.C. when the Karens came into Burma in their second migration. Professor Luce of the Rangoon University and Professor Peam of the Eastern Historical Research Society endorsed the statement of the Karen calendar year.

The Karens came in earlier than the Shans, and due to the dominance of the Shans, the Karens moved down south towards the delta regions of the great river valleys along which they came. The Karens moved down south at that time over 200 years before the Mon and the Burmese
came over from India.
When the Karens first settled down, they called this land KAL LAH - "the Green Country" and they were then a free people but gradually the Mons (a new group evolved from the mixed marriage of the Indians and the people of the land in Tavoy and Moulmein regims) and the Burmans (the people emerging from the intermarriage of the Indian "Braomin"and the people of the country) pushed into the Karen settlements. These Karens being peaceful and self-effacing had again to move away into the mountain fastness of away from established settlements, which became the possessions of these later settlers who had all the traits (or mostly all) of the Indian culture, states-craft and other attributes of the so-called civilization.

The present Karens are found in:

(1) The Delta of the Irrawaddy. Bassiein, Mawmya, Ma-u-bin, Pya-por, Renzada, Tharawaddy and some in the Prome district.

(2) The Eastern Hills. Tucngoo, Papun, Thaton, Moulmein, Par-an, Tavoy, Mergui and Pegu districts, and also in Karen, southern Shan States and in Pyin-ma-na hills.

(3) The Western Regions. The Pwo and Sgaw Karens here live amongst the Burmese and thus having come in contact in most of their dealings with the Burmese. These Karens can speak the Burmese language well, but in the Eastern Hills they live apart and have very little contact with the Burmese, resulting in poor command of the Burmese language. The Karens living both in the deltas and the eastern hills are behind the Burmese in their standard of living.

THE KAREN TRIBES
A nation has its own characteristics, it's

(1) tradition
(2) language, character and culture
(3) the land in which it settles down
(4) it's individualistic policies of economy.
The Karens have all these characteristics, and though a nation, there are many tribes.
On May 6, 1936, the governor of Burma issued a statement, announcing that there are eleven Karen tribes:
(1) Sgaw  (2)Pwo  (3)Pa-O  (4)Paku  (5)Mon-Ney-Bua
(6)Bwe  (7)White Karen  (8)Padaung  (9)Eastern Bwe
(10)Con-Ker  (11) Geh-Bah

CHRONOLOGY
(1) Migration of the Karen from Mongolia  2D17 B.C.
(2) Arrival of the Karens in East Turkistan  2D13 B.C.
(3) Migration of the Karens from East Turkistan  1B66 B.C.
(4) Arrival in Tibet  1B64 B.C.
(5) Migration from Tibet  1D88 B.C.
(6) Arrival of the Karens in Yunnan, China  1385 B.C.
(7) Migration of the first group from Yunnan  1128 B.C.
(8) Arrival of the first group in S.E.-Asia  1125 B.C.
(9) Migration of the second group of Karens from Yunnan to South East Asia  191 B.C.
(10) The last arrival of the second group to enter Southeast Asia  759 B.C.

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APPENDIX B

NATIONAL PARK ACT

B.E. 2504 (A.D.1961)

BHUMIBOL ADULYADEJ, REX.

Given on the 22nd date of September B.E.2504 (A.D.1961)

Being the 16th Year of the Present Reign.

His Majesty King Bhumibol Adulyadej is graciously pleased to proclaim that:

Whereas it is deemed expedient to have a law on National Park;

Be it, therefore, enacted by His Majesty the King, by and with the advice and consent of the Constituent Assembly acting as the National Assembly, as follows:

Section 1. This Act shall be called the “National Park Act, B.E. 2504 (A.D.1961).”

Section 2. This Act shall come into force on and from the day following the date of its publication in the Government Gazette.

Section 3. All other laws, rules and regulations in so far as they are already provided for by this Act, or are contrary to or inconsistent with the provisions of this Act shall be replaced by this Act.

Section 4. In this Act:
(1) “land” means the surface of land in general, and includes mountain, creek, swamp, canal, marsh, basin, waterway, lake, island and seashore;
(2) “National Park” means the land which is determined as National Park under this Act;
(3) “timber” includes all kinds of wood which are trees, brushwood or creepers, including all parts thereof;
(4) “animal” means all kinds of animals including all

9 The content of this Act is partially quoted here.
parts thereof, and things obtained from or produced by the animals;

(5) "competent officer" means the person appointed by the Minister for the execution of the Act;

(6) "Director-General" means the Director-General of the Royal Forest Department;

(7) "Minister" means the Minister in charge of the enforcement of this Act.

Section 5. The Minister of Agriculture shall take charge of and control of the execution of this Act and is empowered to appoint the competent officers and issue ministerial regulations for the execution of this Act. Such ministerial regulations shall come into force upon their publication in the Government Gazette.

CHAPTER III

PROTECTION AND MAINTENANCE OF THE NATIONAL PARK

Section 16. Within the National Park, no person shall:

(1) occupy or possess land including build up, or clear or burn the forest

(2) collect, take out, or alter any act whatsoever things, endanger or deteriorate timber, gum, resin, wood-oil, turpentine, mineral or other natural resources;

(3) take wildlife out or alter any act whatsoever things or endanger the wildlife;

(4) alter any act whatsoever things, endanger or deteriorate soil, rock, gravel or sand;

(5) change a waterway or cause the water in a river, creek, swamp or marsh to over flow or dry up;

(6) close or obstruct a water course or way;

(7) collect, take out, or alter any act whatsoever things, endanger or deteriorate orchid, honey, lac, charcoal, bark or guano;

(8) collect or alter any act whatsoever things, endanger flowers, leaves or fruits;

(9) take in, take out any vehicle or drive it on the way not provided for such purpose, unless written permission has been obtained form the competent officer;

(10) cause any aircraft to take off or land in the place not provided for such purpose, unless written permission has been obtained from the competent officer;

(11) take cattles in or allow them to enter;
(12) take in any domestic animal or beasts of burden; unless he has complied with the rules laid down by the Director-General and with the approval of the Minister;
(13) carry on any activity for benefit, unless written permission has been obtained by the competent officer;
(14) post a notification or advertisement, or scratch or write on any place;
(15) take in any gear for hunting or catch wildlife or any weapon, unless written permission has been obtained from the competent officer and the conditions stipulated by the latter have been complied with;
(16) fire any gun, cause any explosive article to be exploded or let off any fire work;
(17) make a nosy disturbance, or alter any act causing trouble or nuisance to any person or wildlife;
(18) discharge rubbish or things at the place not provided for such purpose;
(19) leave any inflammable article which may cause fire.

Section 17. No Person shall remove, deface, damage or render useless the boundary posts, signs or other marks furnished by the competent officer under this Act.

Section 18. Any person entering the National Park shall comply with the order of the competent officer given in compliance with the rules laid down by the Director-General and with the approval of the Minister.

Section 19. The provisions of Sections 16 and 17, shall not be applied to the official carrying out any work for protection and maintenance of the National Park for educational purposes or scientific research, or to facilitate tourism or sojourn in, or to render safety and inform the public, provided that it be in accordance with the rules laid down by the Director-General and with the approval of the Minister.

Section 20. In arresting and suppressing the offender under this Act the competent officer shall be regarded as the administrator or the police officer in accordance with the Criminal Procedure Code.

Section 21. The competent officer shall have the power to order any person committing the offence under Section 16, to be evicted from the National Park or to refrain from altering any act the person has committed therein.

Section 22. In case any violation of this Act has caused anything into being or rendered a change in condition to anything in the National Park, the competent officer shall
have the power to give the offender an order to have such thing demolished, removed from the National Park, or restored to its former condition, as the case may be. In case the offender fails to comply therewith or the offender is unknown, or for prevention or alleviation of the National Park from damage, the competent officer himself may take any of the said action as may be appropriate. The expenses incurred thereby shall be borne by the offender.

Countersigned by
Field Marshall S. Dhanarajata
Prime Minister
APPENDIX C

NATIONAL RESERVED FORESTS ACT

B.E.2507 (A.D.1964)

BHUMIBOL ADULYADEJ, REX.

Given on the 16th Day of April B.E. 2507 (A.D.1964)

Being the 19th Year of the Present Reign

His Majesty King Bhumibol Adulyadej is graciously pleased to proclaim that:

Whereas it is deemed expedient to revise the law on the protection and reservation of forests,

Be it, therefore, enacted by His Majesty the King, by and with the advice and consent of the Constituent Assembly acting as the National Assembly, as follows:

Section 1. This Act shall be called the "National Reserved Forests Act, B.E. 2507 (A.D. 1964)."

Section 2. This Act shall come into force on and from the day following the date of its publication in the Government Gazette.

Section 3. The Acts which shall be repealed:
   (1) The Protection and Reservation of Forests Act, B.E. 2481 (A.D. 1938);
   (2) The Protection and Reservation of Forests Act, (No. 2), B.E. 2496 (A.D. 1953);
   (3) The Protection and Reservation of Forests Act, (No. 3), B.E. 2497 (A.D. 1954);

   All other laws, rules and regulations in so far as they are already provided for by this Act, or are contrary to, or inconsistent with the provisions of this Act shall be replaced by this Act.

Section 4. In this Act;

"forest" means the land which includes mountain, creek, swamp, canal, marsh, basin, waterway, lake, island and seashore which has been taken up or not acquired by a person

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11 The content of the Act is partially quoted here.
in accordance with the law;

"National Reserved Forests" means a forest which is determined as National Reserved Forests in accordance with this Act;

"timber" means all kinds of wood which are trees, brushwood, or creepers whether standing or falling, and includes roots, burrs, stumps, shoots, branches, buds, tubers, origins, odds, ends or parts thereof regardless of whether they have been cut, chopped, sawn, split, hewn, logged, hollowed out or otherwise altered in any other way;

"forest products" means things which originate from or are found in the forest, viz;

(1) firewood, charcoal, bark, leaf, flower, seed, fruit, bamboo-shoot, resin and wood-oil;

(2) grass, giant reed, elephant grass, reed, thatch grass, cogon grass, sedge, orchid, fern, mushroom and other plants;

(3) carcass, egg, hide, horn, tusk, jaw, bone, hair, bird's nest, lac, bee-hive, honey, bees-wax and guano;

(4) soil, rock, gravel, sand, minerals and oil.

"domestic animals" means elephant, horse, ass, mule, cow, buffalo, goat, sheep and swine owned by a person;

"logging" means cutting, chopping, girdling, felling, lopping, sawing, splitting, hewing, reducing, digging out, or hauling timber in the forest or taking timber by any means whatsoever out of the forest;

"competent officer" means the person appointed by the Minister for the execution of this Act;

"Director-General" means the Director-General of the Royal Forest Department;

"Minister" means the Minister in charge of the enforcement of this Act.

Section 5. The Minister of Agriculture shall take charge of and control of the execution of this Act and is empowered to appoint the competent officers and issue ministerial regulations in fixing fees, royalties and forest improvement charges not to exceed the rate in the Schedule Annexed to this Act and determine other activities for the execution of this Act.

Such ministerial regulations shall come into force upon their publication in the Government Gazette.

CHAPTER II

CONTROL OVER AND MAINTENANCE OF THE NATIONAL RESERVED FORESTS

Section 14.2 Within the National Reserved Forests, no
person shall occupy, possess, exploit and inhabit the land, develop, clear, burn the forest, collect the forest products nor cause by any other means whatsoever any damage to the nature of the National Reserved Forests, except:

(1) logging or collection of forest products under Section 15, exploitation or inhabitation under Sections 16, and 16 (bis), or 16 (ter), carrying out any activity under Section 17, utilisation under Section 18, or carrying out activities under Section 19, or 20;

(2) logging of reserved timber species or collection of reserved forest products under the Law on Forests.

Section 15. Logging or collection of forest products in the National Reserved Forests shall be made after permission has been obtained from the competent officer or when permission has been granted by means of notification by the competent officer in respect to any particular area of the National Reserved Forests.

In granting permission, it shall be in accordance with the forms, rules and procedures specified in the ministerial regulations.

Section 16.3 The Director-General is empowered, with the approval of the Minister, to grant permission to any person in the National Reserved Forests in the following cases:

(1) the exploitation or inhabitation in the National Reserved Forests for a period of a term not less than five years but shall not exceed thirty years. In the event of permission to government agencies, or a public body under the Budget Procedure Code, the royalty shall be waived or may be paid in some part thereof, if he thinks fit.

(2) The exploitation related to mining in accordance with the Law on Mining for a period of an interval not more than ten years, such person shall be exempted from applying for permission for collecting forest products and from royalty on forest products under this Act in respect to the mineral, marl and kaoline or stone, as the case may be.

The application for permission and obtaining of permission under the first paragraph shall be in accordance with the rules, procedures and conditions laid down by the Director-General, with the approval of the Minister.

Section 16. (bis), In cases where any National Reserved Forest, in whole or in part, is so deteriorated that its old shifting cultivation land or grassland or valuable timber has become scanty or otherwise with fewer standing trees and cannot naturally be rehabilitated, all of these, with the conditions, procedures, rules as specified by the Minister, with the approval of the Cabinet, will be regarded as such as deteriorated forest.
Where the official finds it necessary to reclaim, in whole or in part thereof, any deteriorated forest, the Minister shall notify such land to be a land reform scheme in the National Reserved Forests.

A land reform scheme in the National Reserved Forests, if any person has been exploiting or inhabiting such land, shall be valid until the date of the notification therein, as prescribed in the second paragraph:

(1) when any person has requested the Director-General or the assigned officer, if he deems it appropriate, such person needs to sustain land for living on, the Director-General or the assigned officer is empowered to grant permission in writing for the said person to exploit and inhabit such land therein, but it shall not exceed twenty rai for each household and within a period of an interval not less than five years but shall not exceed thirty years, the fees shall be waived during the first term but it shall be paid for in the next period thereof;

(2) any person obtaining permission in (1), may be granted permission to reforest or regrow trees in additional land from the exploitation or inhabitation of such a land reform scheme for the National Reserved Forests, if he is able to substantiate himself that he has the capacity and sufficient tools and instruments for reforestation and regrowing of the trees on such additional land. The Director-General or the assigned officer is empowered to issue a written permission for reforestation and regrowing of the trees but shall not exceed thirty five rai for each household and within a period of an interval not less than five years but shall not exceed thirty years and the fees shall not be waived in accordance with the provisions prescribed by this Act.

The permission under the provisions of the third paragraph shall not be deemed holding of the land deed acquired in accordance with the Land Code. In this regard, when a person obtains permission under the provisions of paragraph three (1), and (2), royalties and forest improvement charges shall be waived from the regrowing of the trees on such permitted land. Any person obtaining permission to exploit shall do so in accordance with the procedures and conditions laid down by the Director-General, and may not allow any person other than a grantee to exploit such land.

In cases where permission holder left from the exploitation or inhabitation of a permitted land did not take place within a term of a period exceeding two years or permission holder allowed any person other than a grantee to exploit such such land or failed to comply with the rules and conditions as laid down by the Director-General, the Director-General or the assigned officer shall have the power
to revoke such permission.

Section 16. (ter), In cases where the permission holder under Section 16. (bis) dies, the grantee shall be entitled to exploit and inhabit such land therein but shall not exceed one hundred and eighty days beginning from the date of the death of permission holder.

In cases where a spouse or a heir or a grantee of permission holder or any person whose name is specified by the permission holder, in writing, within the forms as laid down by the Director-General, that he is to be a descendent and on duty therein, if he requests permission to exploit and inhabit such land, shall file an application to the Director-General or the assigned officer within a period of one hundred and eighty days beginning from the date of the death of permission holder.

After he has filed the application for permission under the second paragraph, the person under the provisions of the first paragraph may have further operation therein to exploit and inhabit in accordance with permission issued from the Director-General or the assigned officer.

Section 17. For educational purposes or scientific research, the Director-General is empowered to grant any Ministry, Public Body, Department or any person a permit to carry out any activity in the National Reserved Forests in compliance with the rules determined and with the approval of the Minister. The Minister may, if he thinks fit, order any fees, royalties and forest improvement charges be waived.

Section 18.4 The Director-General is empowered to stipulate the rules on certain kinds of exploitation in the National Reserved Forests by the publishing of a notice in the Government Gazette in the following matters:

1) entry, passage or use of way;
2) taking in or allowing the entry of domestic animals.

The stipulated rules under the first paragraph shall come into force in any National Reserved Forests, and shall be duplicated and affixed at the District Office, the Sub-District Office or where the National Reserved Forests is located in the localities concerned.

Section 19. For the purposes of control, supervision, maintenance or improvement of the National Reserved Forests, the Director-General is empowered to order, in writing, the competent officer or officer of the Royal Forest Department to carry out any activity therein.

Section 20.5 In cases where any National Reserved Forests is so deteriorated under Section 16. (bis), the
Director-General is empowered, with the approval of the Minister, to grant permission, in writing, to any person to carry out forest improvement or reforestation or regrowing of the trees in such deteriorated land with the specified period of time and conditions as imposed in the permission, but in the case of the issuance of any permission exceeding two thousand rai, the permission shall be granted upon the approval of the Cabinet.

The Minister may fix the rate of the remuneration for payment to the government by publishing a notice in the ministerial regulations of the Ministry of Agriculture and Cooperatives, if he deems it appropriate.

Section 21. The permission for logging or collection of forest products in the National Reserved Forests under Section 15, shall be valid for a specified period of time therein according to the rules determined by the Director-General, but not exceeding one year from the date of its issue.

The renewal of permission shall be in accordance with the forms, rules and procedures specified in the ministerial regulations.

Section 22. In case the permission is lost or damaged, the application for its substitute shall be filed with the competent officer.

The issue of a substitute shall be in accordance with the forms, rules and procedures specified in the ministerial regulations.

Section 23. The permission issued under Section 15, may be transferred upon the approval of the competent officer. The transfer of permission shall be made in accordance with the rules and procedures specified in the ministerial regulations.

Section 24. The permission or the person obtaining permit under this Act shall provide his workmen, employees or representatives with authenticating papers for carrying out the activity as permitted in accordance with the forms, rules and procedures specified in the ministerial regulations.

Section 25. When any forest has been determined as National Reserved Forests and the minister has appointed the competent officer for control, supervision and maintenance thereof, the competent officer shall have the following powers:

(1) to order any person to be evicted from the National Reserved Forests or to refrain from carrying out any activity therein when the fact appears, or there are reasonable
grounds to suspect, that an offence under this Act has been committed;

(2) to order in writing the person committing an offence against this Act to remove, alter or deal otherwise with the things that caused damage or rendered deterioration to the nature of the National Reserved Forests within a specified period of time;

(3) to seize, demolish, remove, alter or deal otherwise with such things when the offender who failed to comply with (2), is unknown or is not found.

If the competent officer has taken any of the said actions and paid the expenses therefor, such expenses shall be borne by the offender, or the competent officer shall sell the seized property by public auction or by any means, as he thinks fit, to compensate for the expenses. In this regard, the provisions of Section 1327 of the Civil and Commercial Code shall apply, mutatis mutandis to the proceeds of the sale of the seized property.

(4) to take in case of emergency any action as may be appropriate for preventing or alleviating any damage to the

Section 26. In arresting or suppressing the offender under this Act the competent officer shall be regarded as the administrator or the police officer in accordance with the Criminal Procedure Code.

Section 27. When it appears that the licensee or the person obtaining the permit, his workmen, employees or representatives have committed an offence against this Act or the ministerial regulations, or violated the conditions imposed in the license or permit issued under this Act, which may cause serious damage, the competent officer shall have the power to order in writing the suspension of such license or permit for a period not exceeding sixty days from the date of giving such order.

Regarding the order for suspension of the license or the permit under the first paragraph, the Director-General is empowered to revoke the same or to increase or decrease the period of suspension, as he thinks fit. In cases increasing the said period, it shall not exceed one hundred and twenty days.

Section 28. The licensee or the person who obtained the permit is entitled to appeal against the order of the competent officer suspending the license or permit or against the order of the Director-General under Section 27, to the Minister, by lodging the appeal to the competent officer within thirty days beginning from the date upon the receipt of the order.

The decision of the Minister shall be final.

Section 29. In cases where the order for suspension of
the license or permit has been given, the Minister shall, if he thinks fit, have the power to order the revocation of such license or permit.

Section 30. In cases of necessity for official service or public interest or when it appears that the permission has been granted unlawfully, the Minister is empowered to order the revocation of any permission, in whole or in part, thereof.

Countersigned by
Field Marshall Thanom Kittikachorn
Prime Minister
APPENDIX D

POPULATION CHARACTERISTICS IN SUNLIGHT AND MOONLIGHT

Sunlight

In the past, population changes in Sunlight resulted mainly from the migration of Pgak’nyau from nearby villages. Most of the migrants who moved to Sunlight had pre-existing connections to other villagers, and most of them had plots of paddy land in the valley of Sunlight. Some sixty years ago, according to oral history, there were only two families with a population of approximately 10 to 14 people, who lived in the first settlement of Sunlight. At the time of this research, there were 21 households with an average size of 5.38 persons, and a total population of 113 persons in Sunlight. Initially, this population increase came mainly from migration. It is interesting to note that 41 per cent (47 persons) of the population was born outside Sunlight. Moreover, 77 per cent (34 persons out of 44 persons) of people who were born before 1972 (the year the ONP was established) had their birthplace outside Sunlight. Most heads of households (both male and female) were born outside of Sunlight. Only seven heads of household reported their birthplace in Sunlight.

However, population change in Sunlight during the last two decades can be attributed almost exclusively to natural
increase in the local population. Recent population growth comes mainly from the establishment of new households through marriage of children from the original families. 80 per cent of the people who were born after 1972 list their birthplace as Sunlight. During the past two decades, only one family has migrated to Sunlight. This took place in 1995 and increased the village population by nine people.

Table D.1

Age Structure of Population in Sunlight

<table>
<thead>
<tr>
<th>Sex\Age</th>
<th>0-5</th>
<th>6-14</th>
<th>15-24</th>
<th>25-60</th>
<th>61+</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>5</td>
<td>13</td>
<td>19</td>
<td>16</td>
<td>5</td>
<td>58</td>
</tr>
<tr>
<td>Female</td>
<td>2</td>
<td>17</td>
<td>14</td>
<td>18</td>
<td>4</td>
<td>55</td>
</tr>
</tbody>
</table>

Presently, the rate of population growth in Sunlight is significantly lower than it has been in the last twenty years. Resource limitations, particularly that of rice production on swidden land, has influenced the people of Sunlight to have fewer children. In the past, most families preferred to have many children and it was quite common to see a family with six or seven offspring. An elderly man in Sunlight related the changes he had seen to me. He explained that in past most people wanted to have a lot of children in
order to meet the labour requirements of agriculture and to ensure the survival of some of their offspring, as the health system was poor and child mortality was high. He also described how it has become quite difficult to raise the same large numbers of children in the present day, because the availability of paddy land remains constant, while swidden land decreases every year due to pressure from the national park.

Moonlight

According to oral history related by key informants, there were only three households in the first settlement of Moonlight, which was established before the turn of the century. At the time of this research, the number had increased to 81 households with an average size of 5.01 persons, for a total village population of 406 people. The age and sex structure of the population of Moonlight is shown in Table D.2.

**Table D.2**

**Age Structure of the Population in Moonlight**

<table>
<thead>
<tr>
<th>Sex\Age</th>
<th>0-5</th>
<th>6-14</th>
<th>15-24</th>
<th>25-60</th>
<th>61+</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>22</td>
<td>50</td>
<td>41</td>
<td>76</td>
<td>11</td>
<td>200</td>
</tr>
<tr>
<td>Female</td>
<td>16</td>
<td>41</td>
<td>52</td>
<td>78</td>
<td>19</td>
<td>206</td>
</tr>
</tbody>
</table>
In the early period when the village of Moonlight was being established, many Pgak’nyau from western Thailand (Mae Hong Son province) came to settle in the village. In the early history of Moonlight, population growth was largely dependent on migration. However present growth can almost completely be attributed to natural growth. In the present day, Pgak’nyau households from other territories are rarely permitted by the village elders council to settle in Moonlight. The chief of Moonlight told me that in the last three decades, only two households have moved to Moonlight from other communities. Both of these families migrated to Moonlight because they had paddy lands located in the village territory and they wanted to live closer to their fields.

As described earlier, it is traditional in Pgak’nyau culture for a man to move to the village of his wife when he marries. However, there are 12 men in Moonlight who did not move out after their marriage. And there are four women who also broke with tradition by moving out of Moonlight when they married men from other villages.

Typically in a Pgak’nyau village, the population would not change significantly through marriage, because the number of men moving out would be balanced by the number new husbands moving in. However, in Moonlight there has been population growth through women marrying into the village. One explanation for this growth is that their husbands did
not follow tradition and leave Moonlight, because of the attraction of agricultural development programmes in the village.

Presently, the rate of population growth in Moonlight is significantly lower than it has been in the past twenty years. Government birth control programmes have affected rates of growth by encouraging couples to have fewer children. As in Sunlight, couples in Moonlight are also pressured into having fewer children because of their reduced capacity for rice production.

Despite the reduction in rates of growth, average population growth in both Sunlight and Moonlight is still fairly high in comparison to the national average. The agricultural production system and lack of a social security are the likely causes for why Pgak’nyau families continue to have more children than the average Thai family. They still need labour for working paddy land and they rely on children to care for them in old age.
APPENDIX E

EDUCATION BACKGROUND IN SUNLIGHT AND MOONLIGHT

Sunlight

Most adults in Sunlight do not have any formal educated, though most young people do. Forty-two per cent of the people in Sunlight are uneducated. This number is quite high when compared to the national average of less than ten per cent. However, this does not mean that all of these people are illiterate. They may not be able to read or write Thai script, but many of them can read and write Pgak’nyau script.

Like most small, remote villages in highland northern Thailand, there is no primary school in Sunlight. The Chiang Mai Provincial Non-formal Education Centre did build a temporary school, but the school is more accurately described as a community centre. The school uses the Non-formal Education Curriculum, and its main purpose is to provide literacy programs for people in the community. The school has only one teacher who comes from the nearby Thai town, but he is rarely present at school. Most children in the village do not go to this school. Instead, they attend school in Mae Pon, at a Catholic residential school that provides formal primary education for children from Kindergarten to Grade Six. Mae Pon is approximately ten kilometres away from Sunlight.

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The people of Sunlight have had little opportunity to receive higher education. There are only 11 persons (4 percent of adults) who have attained any secondary education. Only two of these adults were women, one of whom had married into the village. Moreover, there is no one in the village who has gained any post-secondary education. The economy is one of the most important factors prohibiting parents from sending their children on to higher education, as children must stay at home to help with agriculture.

Table E.1

Educational Background in Sunlight*

<table>
<thead>
<tr>
<th>Grade</th>
<th>Male</th>
<th>Female</th>
<th>Total</th>
<th>per cent of total population</th>
</tr>
</thead>
<tbody>
<tr>
<td>Children before School age Uneducated</td>
<td>10</td>
<td>5</td>
<td>15</td>
<td>13.27</td>
</tr>
<tr>
<td>Grade 1-6</td>
<td>21</td>
<td>27</td>
<td>48</td>
<td>42.47</td>
</tr>
<tr>
<td>Grade 7-9</td>
<td>24</td>
<td>21</td>
<td>45</td>
<td>39.82</td>
</tr>
<tr>
<td>Grade 10-12</td>
<td>2</td>
<td>1</td>
<td>3</td>
<td>2.65</td>
</tr>
<tr>
<td>Post Secondary</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>1.77</td>
</tr>
<tr>
<td>Total</td>
<td>58</td>
<td>55</td>
<td>113</td>
<td>100</td>
</tr>
</tbody>
</table>

Note: * The number includes students who are studying.

According to information provided by the chief, there are currently 19 students studying outside the village, while only 11 students are registered at Sunlight school. Most
students who study outside the village receive some assistance from the Christian Children Fund (CCF) or the Roman Catholic Church. During the past four years, the government has expanded compulsory education to Grade Nine. However, in Sunlight free tuition to Grade Nine is irrelevant because most parents cannot afford the living expenses for their children while they live and study in town.

Moonlight

Most elder people in Moonlight, like those in Sunlight, are not formally educated; however, most young people are. The number of uneducated people in Moonlight is still quite high, about 30 per cent of adults. The percentage of uneducated people in Moonlight may be high compared to the national average, but it is better than for the average of Pgak’nyau people in Thailand. That percentage exceeds 70 per cent.

The first school in Moonlight was established by the Catholic Church in 1967. The main purpose of this school was to teach young people to read and write Pgak’nyau script for religious purposes, that is, to read the Bible and hymns. However, the school also taught primary education subjects such as Thai, mathematics, etc. This school acted as a literacy school and it operated for five years until it closed because of the lack of a teacher. The sole teacher,
who was also the only Pgak'nyau teacher in the school's history, left to take a job as a teacher in a public school run by the Hill Tribe Welfare Division.

Table E.2

Educational Background in Moonlight*

<table>
<thead>
<tr>
<th>Grade</th>
<th>Male</th>
<th>Female</th>
<th>Total</th>
<th>per cent of total population</th>
</tr>
</thead>
<tbody>
<tr>
<td>Children before</td>
<td>28</td>
<td>24</td>
<td>52</td>
<td>12.78</td>
</tr>
<tr>
<td>School age Uneducated</td>
<td>48</td>
<td>73</td>
<td>121</td>
<td>29.98</td>
</tr>
<tr>
<td>Grade 1-6</td>
<td>94</td>
<td>70</td>
<td>164</td>
<td>40.29</td>
</tr>
<tr>
<td>Grade 7-9</td>
<td>15</td>
<td>20</td>
<td>35</td>
<td>8.60</td>
</tr>
<tr>
<td>Grade 10-12</td>
<td>7</td>
<td>16</td>
<td>23</td>
<td>5.65</td>
</tr>
<tr>
<td>Post Secondary</td>
<td>8</td>
<td>3</td>
<td>11</td>
<td>2.70</td>
</tr>
<tr>
<td>Total</td>
<td>200</td>
<td>206</td>
<td>406</td>
<td>100</td>
</tr>
</tbody>
</table>

Note: * The number includes students who are studying.

During the period from 1972 to 1977, there was no school in the village. Therefore, most parents sent their children to a residential school at Mae Pon. At that time the transportation system was not good and children had to walk to the school, which was approximately 50 kilometers away. It took two days for students to walk the distance.

The second and present school in Moonlight was built in 1978 by the government through the Primary Education Department. The present school operates from Kindergarten to
Grade Nine. Therefore, it is more convenient for students to attend secondary school in Moonlight than it is for students in Sunlight. The people of Moonlight have also had more opportunity to receive higher education. Over 16 per cent of people in Moonlight have earned an education beyond Grade Six, while less than five per cent have done so in Sunlight. Moreover, almost three per cent of the people in Moonlight (11 people) have received some post-secondary education.

The are two main reasons for the people of Moonlight having had more opportunity to receive higher education. Firstly, a formal school has operated in the village for more than twenty years, while there is no formal school in Sunlight. Secondly, the people of Moonlight are economically more prosperous due to the government agricultural development programme that has operated in the village for more than two decades. The people in Moonlight earn more cash income than people in Sunlight. Therefore, more parents in Moonlight can afford to send their children to school in town.