

## *Chapter 6*

# Resource Management, Social Class, and the State at a Muslim Fishing Village in Southern Thailand

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*Emanuel Polioudakis and Nitaya Polioudakis*

In this chapter we describe a local system of resource management in a Muslim fishing community in Southern Thailand, how it collapsed, and how a similar system reemerged. During the past 120 years, both variations have controlled harvest technology, organized the fishing space, and allocated access to fishing sites while contributing to social stratification and overfishing.

Despite negative results, the basic underlying system may still be the most effective way to manage the fishery. Two main themes emerge: (1) Relations between the state and local people influence the nature of resource management and how well a management system works, and (2) for reasons intrinsic to a local system, stratification can arise and can affect management and relations with the state.

### **THE RESEARCH SITE**

For over 400 years, Muslims have lived in the settlement and subdistrict (*tambon*) called Mountainhead (a pseudonym). Mountainhead was the local Islamic capital, with a sultan, until the Buddhist Thais incorporated it in about 1830 and instituted a complex state bureaucracy. Mountainhead, however, remains a center of Muslim identity. Of eight villages in the subdistrict, four are Muslim, three are Buddhist, and one is mixed. The villages are spread around the base of a mountainous peninsula that makes the northern lip of Songkhla Lake at the lake's mouth to the Gulf of Thailand (see Figures 6.1, 6.2, and 6.3). Nearly all the houses are located on a strip less than one kilometer wide. For the past 300 years, until about 30 years ago, fishing was the only substantial occupation. The fishing grounds occupy a natural basin from Yoh Island to the sea's mouth, about 26 square kilometers with an average depth of about two

**Figure 6.1**  
**Sketch Map of Southern Thailand**



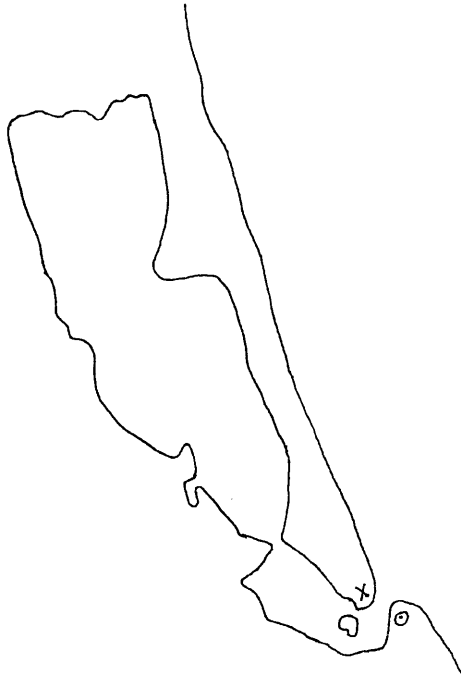
meters. Mountainhead villagers have monopolized fishing at the lake mouth for over 150 years, always fully occupying the fishing grounds with a fishing technology called *phong phang*, which the Chinese introduced at least 200 years ago. Today, fishing remains the economic base for Mountainhead.

The research site is a strip about four kilometers long with over 10,000 people in over 1,000 households. It consists of half of village three and all of villages four, five, and six, about two-thirds the total population of Mountainhead sub-district (Figure 6.3). By Thai standards, this is a very high density.

## THE TECHNOLOGY AND THE FISHING GROUNDS

Villagers who have access to a fishing site use one of two major fishing methods. The less productive is a floating net, called *wang kat*. One or two people in a small boat let the net out in a circle over the water and then gather it. More productive and important is *phong phang*, a fixed 10 meter-long bag net suspended between two 10 meter-long poles set 10 meters apart. The bag

**Figure 6.2**  
**Sketch Map of Songkhla Lake, Indicating Location of Research Site**

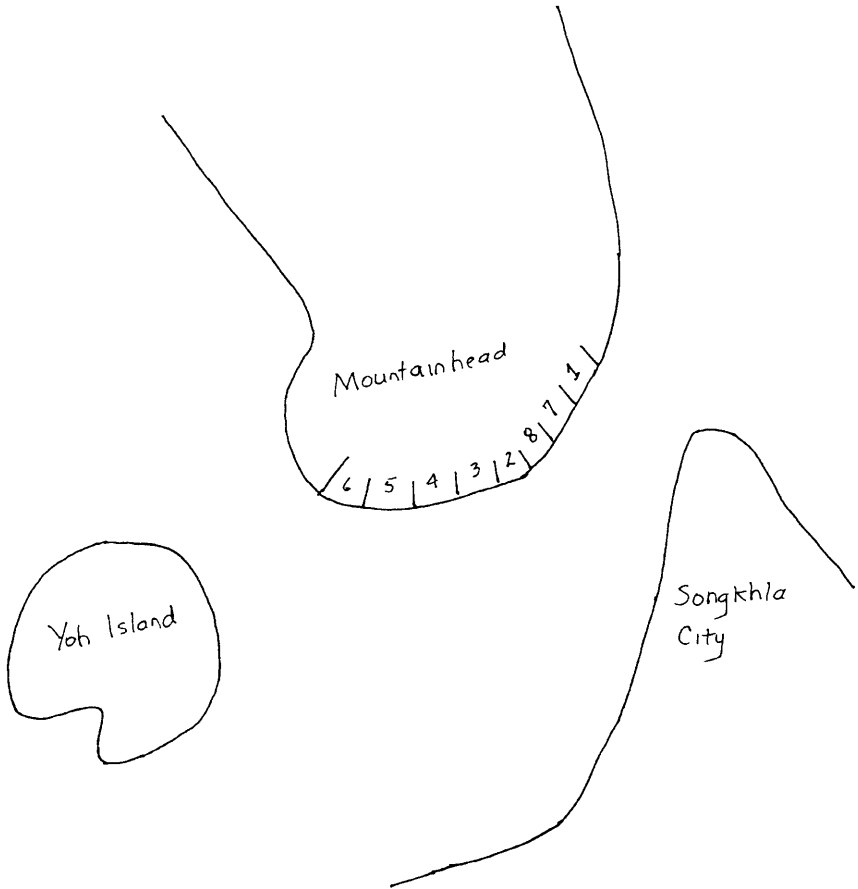


mouth is open between the poles, the lake bottom, and the lake surface. An ideal site is in deep, moving water, with an entrance of about 10 meters on a side. The actual average bag, however, has a smaller mouth and is longer.

Once set, the bag is left about six hours. Usually one man goes out at night in a small boat to set the bag and guard against theft. He collects the catch and assembles the catch before dawn for sale in the early morning market. The best months for *phong phang* are during the high rainy season from October through January, when many target species move between the lake and the sea.

Traditionally the fishing sites (*chong*) covered all acceptable spots in the lake basin. The sites were arranged in 15 named rows (*thaew*); each with seven to 30 sites, for a total of about 260 sites. Three unusually high-yielding sites had their own names and were not counted as part of a row. The number of sites was constant from before 1850 until 1975. Very few Buddhists in the lower lake basin did *phong phang* before 1966. Even the Buddhists at Mountainhead and on Yoh Island did not carry out *phong phang* until 1975. This exclusive arrangement gave Muslims a solid economic base and a foundation for ethnic identity. The local management system is organized as a bidding system that distributes fishing sites.

Most villagers do not distinguish much between units of government. They

**Figure 6.3****Sketch Map of Villages at Polioudakis and Polioudakis' Research Site**

call all officials “civil servants” (*khaaratchakan*), and call the government “the government” (*ratthaban* or *rat*). They also say that they bid for fishing sites at the Provincial Government Offices (*Sala Klang Jangwat*), rather than through any one agency. Thai provincial government personalizes the bureaucratic hierarchy into patron-client groupings whose ties are stronger than those defined in formal government structures (Neher 1974). Thai citizens face a centralized government very different from the impersonal bureaucratic institutions with which most Westerners are familiar. Even the lowest administrative division under the control of Bangkok, the district office, has considerable latitude in its own actions. A leader’s following and resources support each other; the endurance of the reciprocities depends on the depth and reliability of a leader’s resources; and the greatest awards go to leaders with the largest followings (Hanks

1975:86). Village and district heads have to “feed” their supporters to maintain power. Leaders who do not, lose influence (Van Esterik 1996). The official’s position both depends upon and provides access to resources that he can use to build a following. To a villager, the official is a powerful being who can protect villagers from other powerful beings, but can also be dangerous (Tannenbaum 1995). For villagers, the state exists in the person of officials, not as a set of formal relationships, policies, or laws.

Through Mountainhead history, various government officials and agencies have administered the bidding system. The first was the Lord of the City of Songkhla (*Jaaw[a]muang Songkhla*). Around 1880 a provincial governor replaced the Lord. Then, the legal power to levy fees or taxes on aquatic products rested with the Treasury Department (*Phaak Khlang*), although the Treasury Department shared the power with local officials. The Royal Fisheries Department (*Krom Pramong*) was created in 1921 but did not have the power to levy fees or taxes until 1935. After that, power was still centered in Bangkok, but the provinces and local officials had discretion in how they used power locally. In the 1990s, many government agencies have emerged and gained power in Mountainhead.

By 1935 provincial officials and villagers conflicted openly over bidding for sites. By the 1950s, the amount bid for sites increased rapidly. Despite a steadily rising population, villagers lived ever more densely rather than relocate. The catch had begun to dwindle and many villagers sought other occupations. By the 1970s, the large majority of villagers were poor and in debt, but a substantial minority made high incomes. The original *phong phang* bidding system operated with state sanction and fishermen involvement but local power moved increasingly to local officials responsible for regulating the bids. The government knew that *phong phang* was vital to the community, yet in 1975 the government banned *phong phang* altogether. Within two years, *phong phang* was illegally reinstated on a wider scale. A new system of flat fees emerged and operated with tacit approval whereby local officials acted for their own benefit independent of the central government and in spite of its ban.

## **SOCIAL STRATIFICATION AND THE PAST BIDDING SYSTEM**

According to policy before 1975, anyone could get a fishing site through open bidding once a year at the provincial government offices in Songkhla City. But in practice, groups of Mountainhead villagers conspired to control bidding and its outcome. The original bidding system depended on a partnership between some villagers and government officials to punish violators, sanction access, and separate access to define three classes: row heads, other system participants, and people without access. The system members, row heads and other participants, have been a minority since about 1915, yet they benefit most from the system.

Stratification emerged due to social dynamics and the fluctuations and risks of fishing.

The real bidding system began with small groups who formed associations that bid informally among each other for an entire row at once. Each row group was headed by one man, the *nai hua*, or "mister [row] head," of which the system had about 12 at any time. The headmen gathered seed money from among a group of 45 to 50 fishermen, who could ally with the head of their choice. Together this group of about 60 formed a core membership and took the best sites. They bid out the 200 remaining sites, selling seasonal access to them to people from another large but limited village group. Prices changed yearly according to the amount and species caught in the previous year and current water conditions. Until the 1960s, nobody outside Mountainhead bid on a site.

Villagers and province officials agree that there is a "fair" price for fishing sites that would obtain if bidding were ideally conducted without coercion or collusion by government officials or local fishermen. They base this on the revenue from the sale of the catch minus the costs of gear and reproduction of the household. People include the livelihood for the fishers' families as a cost of fishing to arrive at the fair price for the site.

Row heads kept power by giving money to provincial government officials. Villagers knew group members and the power of the heads, so once a group was set up, other villagers rarely went against it. Officials had to accept a bid or they might not get anything. Despite this position they still made enough money from the sale of sites through this bidding system. Within the village, the collusion by the row groups and the internally set bidding together established prices for sites. The prices villagers paid for sites were usually below the conceptual fair prices. Because officials tried to narrow the gap and gain more revenue when they could, a tension between villagers and officials was built into an otherwise mutually beneficial system.

Around World War I at least as many families (300) used *wang kat* as used *phong phang*. Eventually, the number of families who could not gain access to *phong phang* far exceeded those in the system. Society divided into three large groups: 60 families who managed the system; 200 more families in the system; and several hundred families out of it. The economic differences were apparent in residence site, housing, and education. People in the system had economic alternatives, little debt, and money to lend—advantages that further solidified their positions. The gaps that emerged between these groups have resulted in social strain, class feelings, endogamy, and differences in the way people view the system. Neither the group of 60 or of 200 was a patron-client group with the row heads dispensing favors. Rather, they were persistent groups among near-peers formed for mutual advantage. The group leader's power varied with his personality and group composition. However, row heads, and other influential men, did form patron-client relations with some participants in the *phong phang* system, and especially with poor people outside the system.

Villagers said that a site could not be inherited, that families captured sites from each other through bidding, and that families could lose a site. Yet what we saw in practice was that the right to a site was handed down from father to son, uncle to nephew, or father-in-law to son-in-law. People in the system used the terms “bidding” and “sale” to explain access and transactions in the system to themselves. However, these “sales” were not simple market exchanges of commodities and money. We did not find a single case in which a site was sold to anyone outside the family through a simple cash transaction. However, when control of sites passed from one family to another, the transaction usually involved cash. The bidding did not occur as in a typical auction setting. We never found a case where a site moved outside a family all at once, though this might happen in several stages from one branch of a family to a distant branch over many years. The bidding was restricted internally to family members who would bid competitively on a site traditionally held by someone in their family. People in the group of 60 said that bidding was done by rows, while people in the group of 200 said that bidding was done by sites. People described the system by how it worked for them, and outsiders saw the system as an exclusive club.

All people who had participated in the old *phong phang* system had large wooden houses set at the water’s edge. Many of their descendants had large brick-and-tile houses near the Mosque, the most prestigious neighborhood. All people who had not participated in the system and were not *phong phang* fishermen had small wooden houses set on the muddy beach, on poles in the sea, or on the mud above the sandy beach and below the modern strip.

People who did *phong phang* lived in the historic heart of settlement in villages four and five. Village six is known as a slum for the poor who were not in the system and for debtors. Of more than 30 people that we interviewed in villages four and five, all had immediate ancestors who had done *phong phang*. Of the 20 households that we interviewed in village six, only one had ancestors who had done *phong phang*. Most residents of village six were descendants of collateral kin of people in villages four and five who did not gain access to the *phong phang* system. People in villages four and five acknowledged their kinship to people in village six, but genealogical amnesia kept the exact relations obscured (see Figure 6.3).

The original *phong phang* bidding system was exclusive, involved the state in its legitimization and perpetuation, and grounded stratification. Yet it also gave beleaguered Muslims a core group of economically mobile and successful families and a basis for a regional ethnic identity, provided subsistence and income to many villagers, and provided income to the state and government officials. For over 100 years, the system kept the number of users within limits that allowed basin ecology to remain stable. When first introduced, the technology was appropriate for the environmental conditions, the market for various catch types, and the human population. The stratification it fostered did not seem excessive until World War II.

## THE BREAKDOWN OF THE SYSTEM

### Social and Ecological Pressures on the Resource

The extent to which *phong phang* alone is responsible for declining catches is difficult to assess. Numerous changes have contributed to the conditions we observed in 1996: The international market for shrimp, technological innovations and adaptations, increasing pressure on the resource, large ecological disturbances due to economic “development” in the basin, and change in national fishing policy.

After 1950, Mountainhead became a major source of shrimp due to an upturn in the shrimp market, which was sustained by two important technological innovations. First, the advantage of *phong phang* over *wang kat* has always been its ability to catch shrimp because of *phong phang*'s smaller mesh size. In response to the upturn in the shrimp market people adjusted *phong phang* mesh further. At the same time, Lung (uncle) Mat Daran revolutionized the trade by substituting nylon thread in *phong phang* bags. Previously, bags were made of natural fibers, which had to be washed, boiled, dried, and dyed every month or they quickly wore out. Nylon only needs to be washed every week and does not need to be dried or dyed. The introduction of nylon freed the space and the pots once used in net care for shrimp processing. Second, before World War II, the local market for shrimp was strong but limited because there was little preservation. Chinese merchants began to send boiled and dried shrimp to regional and international urban markets; later they would use ice. By 1965, Mountainhead people had taken over preserving and trading shrimp in addition to their historical roles in catching shrimp. Yet, in taking shrimp, *phong phang* also takes many small fish, including fish that are too young to have spawned. Villagers openly acknowledged that increased focus on shrimp by *phong phang*, and initially larger catches, depleted fish stocks and led to a decline in total catches and diversity of species.

After World War II, the introduction of small diesel engines spawned a fleet of medium-sized Thai trawlers (eight to 15 meters long with crews of three to six). Since 1957, large trawlers, under non-Thai ownership, have fished the Gulf of Thailand (Kittitornkool 1996). After 1963 they were joined by Thai-owned trawlers. Trawlers were banned within three kilometers of the seashore as early as 1953, but the law has changed often and is rarely enforced. Stocks in the Gulf were noticeably depleted by 1970, which led large-scale trawlers to move into deeper international waters. The medium-sized boats, however, remain active, even in Songkhla Lake itself. Nearshore fisheries have still not revived.

Increasing fishing pressure may have played a role in declining stocks as well. Even before World War I, the population at Mountainhead had grown steadily. In at least two generations after World War I, many members of the *phong phang* system had seven or more children each. By the time *phong phang* was



banned in 1975, at least 600 families were carrying out only *wang kat* in addition to the 260 doing *phong phang* and *wang kat*.

Since 1965, the Royal Irrigation Department (*Krom Chol[n][la]prathaan*) has built dikes in the drainage system north of the Lake. The dikes diverted fresh water into the lake and thereby kept out some of the important brackish water species. Some time around 1972, the Royal Irrigation Department completed long-term work on the lake's mouth. They dredged and extended the mouth to form better protection for large vessels coming into the port for the city of Songkhla, including military ships. They built a pier for ferries large enough to accommodate automobiles. This work destroyed or fouled what had been the best *phong phang* sites by dumping fill around the deep channel that had held the best *phong phang* rows.

Also in 1972, the three-kilometer trawling ban was applied within Songkhla Lake. This ban was intended to save spawning grounds and coral reefs and to restore the livelihood of nearshore small-scale fisherfolk. Soon after, in 1975, maintaining that *phong phang* depleted fish stocks, the provincial office of the Royal Fisheries Department implemented a national policy that banned *phong phang* altogether. This justified the development of a deep-water shipping channel through the most productive *phong phang* fishing grounds.

### Changes in Bidding and Access

Depending on the *phong phang* site, yields declined by about half between 1950 and 1975. Fishermen using *phong phang* focused increasingly on shrimp and the price of shrimp held steady or increased, but the rise in price did not always fully compensate for the decline in catch. Despite a decline in yields between 1955 and 1975, the average price per site almost tripled. For example, in 1955, the average site cost about 2,000 baht<sup>1</sup> while the most expensive site in the system (bid by itself rather than in a row) cost 30,000 baht (not adjusted for inflation). By 1975, the price of the premier site had declined to less than 10,000 baht. In contrast, in 1965 the average site cost 3,500 to 4,000 baht. After 1960, prices fluctuated greatly because of catch fluctuation and government pressure, but the general trend was clearly upwards to an average between 5,000 to 6,000 baht.

According to villagers, government officials believed that the gap between bids given and officials' concepts of "fair" prices for sites increased with the success in the shrimp market. After 1955, Fisheries Department officials began rejecting bids they believed to be too low. They saw that under new conditions of social and ecological stress and with potential gain from shrimp, villagers would re-bid rather than go without access. So when officials succeeded in pressuring people to bid to near their concept of "fair" prices, people overbid to secure a steady *phong phang* site even at the risk of not being able to pay what they had bid. Between about 1960 and 1975 people often could not pay

what they had bid. Pressure by the Department coincided with declining catch, despite gains from shrimp, to cause inflated bids. Thus the early success with shrimp was quickly offset by the inflated bids, and so the opportunity for increased income by fishermen was not fully realized. Some people asked to bid every other year in an attempt to abate overbidding. The Royal Fisheries Department agreed but imposed a more individualized bidding system. After 1966, the government forced all bidding to be done by sites, and it switched to open bidding by calling rather than the previous way by sealed envelopes.

During 1966 and 1967, a capitalist (*nai thun*) named Nai (Mister) Um-Cha successfully bid for about half of the rows, at the heart of the basin offshore from villages four and five. Yoh Islanders, government officials, and a dissident group of kin living in Mountainhead village six assisted Nai Um-Cha in this surprising entrepreneurial move. As a result, Yoh Islanders gained control over an entire new row of sites near the island for which they did not have to bid. Nai Um-Cha sold the remaining sites to the highest bidders anywhere site by site. Most sites went back to Mountainhead for a price about double their already-increased price. Mountainhead fishermen who had traditionally participated in the system reacted with anger and alternative strategies. One group bought back blocks of sites and then bid for these sites among themselves month by month to share the productivity and the burdensome costs. They helped each other to claim the best *wang kat* areas as temporary alternatives. They gathered enough money to recapture the system for the original "owners" in 1968. But prices never returned to the former low level, and the *phong phang* owners never again held their previous advantage. None of the dissidents who assisted Nai Um-Cha remain in Mountainhead.

Even after the "ban" of *phong phang* in 1975, some marine species of fish and shrimp did not return to Songkhla Lake. *Phong phang* was not the only cause of dwindling diversity although it may have been, as villagers think, a major cause for the smaller size of individuals caught. Villagers give different weights to different causes, but few hold themselves blameless.

The old system had collapsed. The ban in 1975 was an anticlimax, but it ushered in serious consequences. A similar management system formed illegally based on a tacit agreement between fishers and local government officials. The new *phong phang* system, based now on fees, has much the same character and many of the faults as the old bidding system. This new system creates many more sites, degrades the fishing grounds, costs fishermen more in higher bids, is less responsive to fluctuations, does not result in equity, and probably allows more cheating. Still, the new system limits the number of sites, regulates access to sites locally, generates revenue, and seems to keep the ecosystem in a livable, if less-than-ideal, condition. Despite these characteristics and consequences it appears ecologically stable.

## THE CURRENT ECONOMIC SYSTEM AND THE REEMERGENCE OF *PHONG PHANG*

### Influence, Ethnicity, and the State

Current conditions may be misunderstood without some prior words on influence, gangsters, violence and ethnicity. Before 1980, gangsters in Southern Thailand controlled forest products, fish, ores, and especially smuggled goods. Since 1980, the old gangsters have been taken over by new gangsters who specialize in gambling, prostitution, and drugs. The drug trade, mostly in heroin and amphetamines, has grown rapidly, both for indigenous use and because medium-sized ports are one link in the wider marketing chain. Many fishing centers—like Mountainhead—are large hubs for sales. Gangsterism and the drug trade did not directly stem from the *phong phang* system and did not directly affect it or the social organization growing out of it.

External political and social forces intensified the changes caused by increased population and intensified fishing. Legally, Mountainhead villagers are free to move about in Thailand, but ethnic prejudice has kept them confined to Mountainhead. Muslims in Thailand do not go to schools as much as Buddhists, nor do they advance as far. They are not well represented in the government bureaucracy. Despite a recent (up to 1996) economic boom with strong manifestations in the Songkhla area, factory owners prefer not to hire Muslims, especially from Mountainhead.

Within two years after the 1975 ban, most villagers had begun to do *phong phang* illegally, but with tacit official approval. All provincial officials knew that enforcing the ban would lead to civil unrest and to a situation that would damage their own careers, and that most villagers had no other alternative means to earn a living.

The old system had about 260 sites operated by Muslims. It is nearly impossible to count the total number of sites now because *phong phang* is illegal, and it is done at night. However, villagers estimate that there are about 600 sites. Since the 1975 ban, then, the total number of sites at least doubled (but a few of these additional sites have resulted from families splitting an old site into two or more sites). Muslims control the sites near Mountainhead, while Buddhists have some sites around Yoh Island. Nearly all the people who used to do *phong phang* under the old system continue under the new system or have a descendant who does. Villagers fear that if they do not pay a fee to someone there will be no regulation at all or a bitter internal struggle for access will emerge. Officials have had trouble getting their share of the fee, and since they are “running” the system through men of influence rather than the state, they have no public recourse when they are unable to collect.

In 1994, a high-ranking central government official came to visit the lake. Because *phong phang* was illegal, local officials wanted the gear out of sight. Usually, officials gave fishermen advance warning so that they could preserve

the expensive poles and anchors. When a Fisheries Department official ordered the Harbor Police to sweep the *phong phang* equipment from the basin, the people did not get their usual early warning. Villagers openly confronted the Harbor Police and the regular police. They blockaded the bridges that cross to Yoh Island and carry nearly all the traffic in this heavily commercialized region. The local government officials had to yield. This incident shows the uneasy relation between ecology, state, and community.

### Social Classes

People of the lowest class fish in any way they can but do not have regular access to *wang kat* because they do not have money for the gear. They also try to earn wages as day laborers in construction or other work. Nearly all of them are in constant debt and often borrow from their neighbors. None of these people have land of their own. The next to the lowest class uses *wang kat*. They borrow money for gear from wealthier neighbors, especially those who buy and sell fish. They usually cannot (or will not) pay off the debt entirely, so they become clients of the debt owners. All the people that we interviewed in this class are in chronic debt. Most of them live in village six (see map). They typically have one-story houses, and some have small motorcycles. Half of them said that they own their own small piece of land (usually inherited from parents), but they usually have to pledge the land to secure their loans.

A lower middle class began to do *phong phang* under the new system. Unfortunately, we could find out little about them. Most claimed to own land, which they had inherited from their parents, and they had at least a one-story brick-and-wood house. People of the more solid middle class continue to carry out *phong phang* and related occupations such as net making. Nearly all these people own their own land inherited from their parents. They are often in debt, but it is entrepreneurial debt that they could clear if they wished. Nearly all families live in small two-story houses, have a motorcycle and a color television set, and have had only two or three children, who they wish to send to vocational school or college.

Members of the upper middle class have lucrative occupations, often in addition to *phong phang*. At least one man in the family continues to fish with *phong phang* while other members of the family might sell cloth, jewelry or lake products, or raise sea bass. Today, the other occupations almost always make more money than the *phong phang* but people hold on to the site because of the steady income and because it is work for some men of the family who would otherwise be unemployed.

Most members of the highest class are descendants of some of the men who used to be at the core of the *phong phang* system. They have carried out alternative occupations for the longest time. These men and women dominate the alternative occupations and gain the highest income from them. They are the largest moneylenders, with both the largest number of debtors and the greatest

debts owed to them. Even middle class families go to these families for money. The three largest moneylenders whom we knew all had fathers who had been row heads. Members of these highest-class families travel farthest to sell the most expensive jewelry. Most of them now live in the prestigious area by the Mosque along the new road. They all have two-story houses, often with decorative tile, color television sets, and cars. Several of their sons are religious teachers. At about the age of 14, some young men go to regional towns for religious instruction. Every man who had an ancestor in the *phong phang* system leaves at least briefly. No one who did not have an ancestor in the system had ever gone for religious training. Only men who study outside can read Arabic and can interpret the *Koran* and the *El Hadis* (*Sayings of the Prophet*). When the students return, some teach at the Mosque. Many make teaching a lifelong part-time occupation, and some even gain considerable income from it. At least three men who were professional religious teachers were also part-time *phong phang* fishermen.

Besides fishing, other high status occupations are: selling clothing, jewelry, wood, or lake products (fish, shrimp, dried shrimp) and raising sea bass. We interviewed more than 30 people in these occupations; all of them had ancestors in the *phong phang* system. People we interviewed said that the people who did not have ancestors in the system did not carry out these occupations for long. These occupations not only mark status, they can increase status and wealth, providing a means for upward mobility for families. For example, someone who is successful at dealing in jewelry might provide the money for a close relative to raise sea bass. Likewise, the largest wood dealer we found was the father of a village headman whose family did *phong phang* in the past but have not done it recently because they used their revenues to buy marsh land in village six and turned it into the local open-air market.

### The Present Phong Phang System

In the new system, villagers pay a standard “fee” for the right to a *phong phang* site. This fee is not a form of privatization, nor is it based on equity, nor does it foster good relations between local people and the state or local government officials. Access itself is still largely governed by historical patterns—by kin connections and by connections with rich or powerful people. The widespread, standard fee in 1996 was 500 baht per month, but varied somewhat with clearly divergent site conditions. This fee closely approximates the yearly rate of about 5,000 to 6,000 baht set through bidding in the 1960s (excluding the overpriced inflationary bids that were never fully paid). Now that site quality is less variable due to the elimination of the previous premium sites and the general reduction in catch, a flat fee eliminates the cumbersome bidding system, seems realistic enough to the fishers, and is easier to collect.

Most villagers say they pay the fee to “the government,” but really they usually pay it to representatives of local rich people, moneylenders, fish dealers,

and gangsters. These representatives are supposed to help fishermen in case of a problem. Part of the fee goes to various government officials in charge of policing or managing the fishery. In all the cases that we saw, the controllers of the system were from old *phong phang* families and had connections to gangsters. Despite these ties, the gangsters do not appear to set the size of the fee, nor do they make many decisions about who may do *phong phang*. They leave that to families who have traditionally run the system—those who know the system best. We could not find out what proportion of the fee goes to whom.

In 1996, a man doing *phong phang* made between 100 baht and 1,000 baht per outing. The average outing probably yielded over 300 baht. *Phong phang* does better than *wang kat*, and so *phong phang* maintains its economic and social advantage even though it is illegal. The yield from *wang kat* fluctuated from no return to about 400 baht per man per outing and averaged around 150 baht. Any *wang kat* catch over four kilograms sparks village gossip; the dockside price is about 40 to 100 baht per kilogram depending on the species caught. The gap between insiders and outsiders has been aggravated with the breakdown of the old system and the onset of the new system. In 1996, young Mountainhead people remained confined to their little strip of land, and to *phong phang*, it was business as usual except for the very high level of tension caused by the increasing class distinctions.

### Other Economic Activities

In the past, women marketed their husbands' *phong phang* catch. Now ideally any woman can market any aquatic products, but in practice only some women consistently do. About 200 Muslim women have become established marketers of aquatic products, of which about 60 women specialize in the products derived from *phong phang*. Every woman marketer we met had an ancestor in the *phong phang* system even if her own family did not do *phong phang* now. Husbands of about half of the women help out full-time. Most women whose husbands fish under the new system sell the catch to other women who market for them. Women whose husbands have poor sites, or who can do only *wang kat*, and who are in debt, are poor and stigmatized. But not all women who sell their husbands' catch are poor. Women whose husbands have good sites and who themselves carry out other occupations are considered wise to sell their husbands' catch quickly and use their own time better.

For at least 40 years women have sold cloth and jewelry. There are two levels of these activities: the basic level, primarily for women, which earns enough to raise a family fairly well (over 10,000 baht per month); a larger-scale system for families with political influence, including some gangsters (income unknown).

Besides these traditional activities, in 1985 the Royal Fisheries Department began promoting aquaculture projects in which fishermen raised sea bass (*plaa kaphong*) in net cages, partly as a way to lure people away from *phong phang*.

It takes a fair amount of capital to start and run the enterprise (over 30,000 baht including food), but growers can make a considerable return in less than two years (up to 100 percent). The government will provide initial equipment to cooperative groups of bass raisers as long as the members return some of their profits to the group for further investment.

About 200 Mountainhead villagers raise sea bass in about 250 cages, the maximum scale of production given the water's shallow depth, moderate turbidity, and level of pollution. All of the sea bass raisers whom we interviewed had ancestors who had done *phong phang*. People gained access to the fish sites through social connections that had been built in the previous system. The best fish sites are in the place where some of the best *phong phang* sites used to be, so in this way the scheme to replace *phong phang* with sea bass has worked. Yet all of the families who raise sea bass have at least one person who does *phong phang* as well. All the sea bass raisers come from the middle or upper classes. The wealthiest people did not give up *phong phang* for sea bass: they adopted both activities, took the best sites for both activities, and excluded people from other sites. With 250 sites devoted to sea bass and 600 sites devoted to *phong phang*, the lake now has 850 fishing sites where once it had 260 *phong phang* sites. The Royal Fisheries Department scheme functioned to reinforce class divisions and solidified the place of middle and upper class families and fishermen, many of whom continue to do *phong phang*.

Upper class and upper middle class families earn income from collecting on loans they have granted to families of lower classes. Though not their largest source of income, the income and favors from debtors are a large source of money and power. Besides food, debt is the greatest expense of lower class families. Based on the cost of purchasing and maintaining *wang kat* gear, we guess that about 50 families hold the debt for 500 families. The average amount of debt incurred by each family is between 10,000 and 20,000 baht. In village six, at least 60 percent of families were in chronic debt. The people who were successful in the old *phong phang* system amassed the capital that serves as the basis for lending money. The lack of money to break free from debt is largely due to never having had access to the old system. The debtors neither can, nor wish to, pay off all the debts, and the debt holders do not wish it. To pay off debt would exclude a family from future access to cash for emergencies. Through this patron-client system, the old system persists and continues to promote stratification even after the old system has died.

The Royal Fisheries Department also has a scheme for gear cooperatives. It offered to buy *wang kat* gear for members if they would eventually return the cost to the group. The money would be reinvested in new gear for the members and in new members. Villagers refused. Government officials said that the fishermen refused because they wanted the gear for free without commitment. If poor villagers broke free of gear debt, then they would also cut ties to their debt owners, ties that brought security and access to large amounts of cash for emergencies. The cooperative gear scheme could not provide for these additional

needs. The Royal Fisheries Department could not take the place of patrons. Ultimately, the plan was dropped.

While these economic alternatives do not directly depend on *phong phang* now, the differential access that people have to them, and the differential benefit people receive, are rooted in the stratification that derived from *phong phang*.

## CONCLUSIONS

The keys to Mountainhead's story are: a well-defined fishing ground; a technology that allows for the division of the fishing grounds into sites; the bidding system that differentially determines access to fishing sites; the fluctuations and risks that are intrinsic to fishing; a mutually beneficial relation with the state, despite bad ethnic relations and persistent conflicts over site fees; and a steady market for the catch, especially shrimp. Stratification arose when some families learned to manage the system for their own benefit. Once it arose, stratification guided the management system and shaped subsequent social and economic life. These effects intensified as the human population grew and remained confined. Many of the features important at Mountainhead appear at least tacitly in other cases of resource management and likely have shown similar effects there.

In theory, bidding should: minimize revenue differences between sites that are not equally productive (yield the greatest equity), insure that sites be sold at prices that approach their potential return, minimize monopoly profits, and maximize revenue for the state. The bidding system met those goals only partially at best, and it also facilitated stratification when some families cooperated to manage access. Stratification then encouraged powerful villagers to fight the state even harder. Even though the state was a partner in the original bidding system and sanctioned it, the state failed to prevent collusion. Other well-intended allocation systems may be open to similar distortions.

In good years, people with *phong phang* sites keep minor capital reserves in a ready liquid form (some money, mostly jewelry) to use against bad years, yet they also invest in social relations (weddings, education, gifts). People who only do *wang kat* seem to have few reserves. They use their income from good catches to chip away at previous debts and to give themselves "treats" such as radios. In bad years, people with *phong phang* sites can cover some losses by dipping into liquid reserves or by calling in favors but are also likely to go into debt. People who do only *wang kat* go further into debt. Whether either type of fisher can erase the debt depends on later yields and fluctuations; with *phong phang*, probably they can; with *wang kat*, probably not.

As with other peasants, Mountainhead villagers missed few chances to denigrate the state. But they realized that they needed the state to maintain a system that was good for them. In the past, the state punished people who stole from the *phong phang* sites or who set up extra-legal sites. The state limited the number of sites, and by sanctioning the bids, it kept prices within limits that allowed families to earn enough to survive and even to invest in community-



based enterprises. Even under the illegal system since 1978, the state's traditional roles have been taken over by local men of influence, albeit in a roundabout way. Local government officials probably helped to damp the power of gangsters because they do not want the fee to rise enough to cause rampant cheating or to cause incidents.

It can appear as if the fishermen and the state did in fact evolve co-management based on some of the conditions given by Pomeroy and Williams (1994:11–12), including consensus and voluntary compliance. Unlike the past, most fishermen now do not have a determining role in decision making about who benefits and how they may participate in the system. If this system were co-management, fishermen, or their representatives, could openly negotiate with the state and would have more substantial political influence for themselves as citizens of the state (see Acheson this volume) to determine the conditions of their livelihoods.

Since the Thai state often manifests itself locally through individual officials, informal arrangements often are more relevant to the everyday practice of fishing than legally defined formal relationships. This poses a problem in thinking about co-management. While the decentralization of management and close contact between local government officials and fishermen suggests co-management, neither of the two sides—fishermen or the state—is in control. Control of ‘management decisions’ is often by local men of power—whether gangsters or government officials makes little difference. Management is decentralized, but power and authority have not gone to fishers or their communities. Nor are they likely to. Men of power are not likely to serve as enlightened intermediaries between the state and fishermen, nor are they likely to serve the best interests of the state or fishermen unless those interests coincide with their own.

In practice, no better system likely exists. Even if villagers were to negotiate with other representatives of the state, or if negotiations with present local officials were sanctioned by a higher authority (maybe made legal), the final outcome would likely be similar. A fully public and legal negotiation might technically exclude gangsters, men of influence, and officials from any legal right to a share of fees. It might endorse a method of allocation aimed at completely fair access. Yet if such a system were put into practice, it would likely lead to further problems. Not every villager is equal. Not all can have a *phong phang* site. Much of the Thai state is run illegally and probably will be for some time to come. Mountainhead villagers have to live with these realities.

## EPILOGUE

Recently Thailand has moved rapidly from a traditional agrarian economy to open-market capitalism and moderate industrialization. It has also seen massive environmental degradation from the seizure of forests and fisheries by government officials, businesses, local communities, the poor, and various opportunists. In response a counter-movement has arisen that shares with Western ecological

movements a romantic approval of rural life and hostility towards industry and urban consumerism (yet through which, paradoxically, an anti-Western chord echoes consistently). Thai activists have turned to the idea of local wisdom (*phuum[i] phanyaa chaaw baan*) for solutions (Poungsomlee 1995). Using the notion of local wisdom, activists have urged the creation of “community forests” and “community fisheries” in which whole villages have control over a resource and manage it with state sanction (Thailand Environment Institute 1995). In 1993, the non-governmental organization Yaadfon (Raindrops) helped the southern Thai Muslim fishing village of Thung Thong, in Trang Province, to set up the first community forest–fishery (Chansanoh 1994; Trakulkumjai 1996). People are now drafting legislation to enable such forests and fisheries (Warner and Wood 1993; Ganjanapan 1994; Christensen and Rabibhadana 1994). The new constitution in Thailand contains a clause specifically to preserve and promulgate local wisdom.

The goals of the movement emphasize the protection of nature and the maximization of village autonomy and equity, while minimizing the role of the state and the capitalist market (Khongmaak and Kaewnuu 1994; Thai Development Newsletter No. 26, 1994). Yet Trakulkumjai’s (1996) review of the first community forest suggests that only some families, rather than the village as a whole, actually control the community resources and that villagers do not benefit equally—although the village in general is better off than before. This is precisely the context within which Mountainhead’s management system emerged, collapsed, and reemerged, newly adapted to local socio-ecological conditions. We hope that planners can learn from Mountainhead to realistically take into account all factors, including changing ecology, changing demography, local politics, local stratification, and relations between the state and local people.

## NOTES

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1. Until a dramatic floating of the Thai baht in 1997, the baht had been one of the steadiest currencies outside the Western developed world, so that nominal prices are a fairly good index of real prices. From about World War II until 1983, 20 baht equaled one U.S. dollar; from 1983 until 1997, 25 baht equaled one U.S. dollar. Official records of prices do not go back far enough to adjust for inflation. We have long-term prices for some basic commodities (rice and shrimp), but no price was steady enough to be used as a numeraire, and the argument is too complicated to make an issue here.