



The Urak Lawoi'

of the

Adang Archipelago, Thailand

By Supin Wongbusarakum

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T

he final part of this book was written in a hospital while I was spending time with my mother, Yupa Wongbusarakum. Without her, this book would not have been possible. She came to stay with me during my dissertation research in the Adang Archipelago in the spring of 1998, after I had been assaulted on Lipe island. At the time, I had just started to collect data and was on the verge of giving up my project, as my family and friends felt that it was not worth continuing at the cost of my safety. Even though my mother disagreed with my wish to finish some part of what I had begun, she recognized the importance of the study and not only accepted my choice to continue, but left her comfortable home in the city to stay with me during the most difficult periods in the field. This period later became the beginning of a year-long study of the Urak Lawoi'. No words can sufficiently express my gratitude for

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Photo Courtesy Soimart Rungmanee.

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Photo Courtesy Brendan Carroll

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Photo Courtesy Brendan Carroll

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I. Introduction

On December 26, 2004, the coast and islands of Thailand's Andaman Sea were heavily impacted by the area's first tsunami in recorded history. These areas, home to formerly sea-nomadic peoples such as the Urak Lawoi', Moken, and Moklen, not only suffered the loss of lives, homes, and communities, but their fragile, traditional ways of life were further threatened. Much of the aid targeted to these areas reflects a goodwill interest in restoring livelihood to these communities. For such projects to be culturally sensitive and locally appropriate, however, requires an understanding of the inhabitants' traditional culture and ongoing dilemmas.

The Adang Archipelago, which has been home to approximately 880 people of the Southeast Asian minority group Urak Lawoi' for the past century, was minimally affected by the tsunami itself. But the community faces the same challenges as most other formerly sea-nomadic communities in Thailand, including the Urak Lawoi' that have inhabited the Lanta and Phuket islands for centuries, and the Moken of Surin island. Public awareness of these people is very low, and little information exists about them. In a 2004 survey of visitors to the Adang Archipelago, 60 percent of the foreigners knew about the Urak Lawoi' before arriving, while this was true of only 33 percent of

Thai visitors. Nearly half of the Thai tourists learned only after arriving that the Urak Lawoi' have their own, separate language and culture, and one in four learned this only because of a survey question.¹

Given the rapid pace of modernization and globalization of the market economy, traditional cultures worldwide run a great risk of disintegration, taking with them potentially valuable local knowledge. It is hoped that this volume will help raise awareness of the Urak Lawoi' people, their culture, and the challenges they face in conserving their traditional ways of life so naturally tied to the environment of the Adang Archipelago and the sea.

1. UNESCO and NOAA 2005: 79



Photo 1: Urak Lawoi' boys playing in the sea (Courtesy Ralf Obergfell, www.ralfobergfell.com)

II. Origins

The Urak Lawoi' are one of Thailand's minority people, socially and culturally distinct from the dominant ethnic groups. They are thought to be ethnically Malay. Their language, which traditionally has no written form², is part of the Austronesian language family and can be considered a dialect of Malay (see Appendix A, "The Urak Lawoi' Language").

In Thailand, the Urak Lawoi' are found mainly on the coasts and islands of the Andaman Sea. They moved to the Adang Archipelago from northern islands in the Andaman Sea and settled in the area in the 1910s. While the Urak Lawoi' of the Adang Archipelago place their mythical origin at Gunung Jerai (located on modern maps on Kedah peak, north of Penang in peninsular Malaysia), there is little agreement about how the Urak Lawoi' people ended up in Thailand. Theories have been forwarded that they migrated from China's Yangtze River, south along the Kong River to the Malay Peninsula and Myanmar;³ that they descended from the Sea Dyak of Borneo and traveled through the Malacca Strait to the Andaman Sea;⁴ or that they were the first migrants to the Malay Peninsula, even before the Malays, and thus indigenous to Malaysia.⁵ It has also been suggested that the Urak Lawoi' are related to Melanesians from the South Pacific,⁶ or to the sea-nomadic Moken, who also live in the Andaman Sea.⁷ (This last theory has been refuted by researchers who point out that the Urak Lawoi' have always maintained their own

From Gunung Jerai, Malaysia?

discrete identity, and have no history of being a hybrid people.⁸)

Finally, it has been proposed that the Urak Lawoi' are descended from the strand people called *orang laut kappir* (from *kafir*, "unbeliever" in Arabic) of Langkawi island, off northwestern Malaysia, who were forced to become sea nomads when they refused to convert to Islam after the island was conquered by the Malays.⁹ The *orang laut kappir* ended up on Lanta Yai island in Thailand, and have been described as cultivators and fishermen who left their nomadic lifestyle only in the late 19th century.¹⁰ Based on this last theory, the Urak Lawoi' could have been the first people living on Lanta Yai,¹¹ and their history there would date back more than 500 years.¹² Many Urak Lawoi' in Thailand refer to Lanta Yai as their original home. The Urak Lawoi' communities in Phuket are believed to be up to 200 years old. Map 1 shows the locations of the main Urak Lawoi' communities in Thailand and their populations, for a total of more than 6,000 throughout southern Thailand.

In addition to the communities shown, temporary Urak Lawoi' settlements have been located on Ngai island in Krabi province, and

2. Over the past 40 years an orthography based on the Thai alphabet has been used in the villages on Phuket Island. Most Urak Lawoi words in this book were transliterated by Stephen W. Pattemore using the orthographical system that he developed with David W. Hogan, working from audio recordings and written notes. However, some words were transcribed by the author and other non-Urak Lawoi writers who do not have a linguistic background. Consequently, there are some inconsistencies in the transliteration and slight deviations from how the words should be exactly pronounced.
3. Hiranto in Kruahong 1998: 4.
4. Johnjud 1982.
5. Thai Royal Academy 1969: 6225.
6. Chumpol 1981: 25.
7. Ivanoff 1986.
8. Pattemore and Hogan 1989: 75.
9. Annandale and Robinson 1903 in Sopher 1977: 62, 67.
10. Sopher 1977: 82.
11. Granbom 2005: 37.
12. Kongmuenpet et al. 2001: 23

Libon (Talibon) and Mook islands in Trang province. The Urak Lawoi' often share relatives across several communities and travel among them on visits.

Urak Lawoi' surnames can sometimes be used to identify their origins. In the Adang Archipelago,

most are named Harntalee (meaning "brave sea"), a name they were given along with Thai citizenship when they came under the patronage of the King's mother in the early 1960s. In Phuket it is Pramongkit ("fishery"); and on Lanta island, Taleeluk ("deep sea") and Changnam ("water elephant").

A. Migration to the Adang Archipelago

On the Adang Archipelago, local legend credits To Kiri,¹⁴ a Muslim adventurer from Aceh in Indonesia, with first bringing the Urak Lawoi' to the area.¹⁵ In the early 1900s To Kiri began his search for a place rich in natural resources to settle. He and his two brothers traveled by rowboat to Gunung Jerai, where he married a Chinese Malay woman and had a daughter named Teh. While his brothers decided to settle down in Gunung Jerai, he pushed further north into the Andaman Sea of Thailand with his family and four other friends. They stayed on Langkawi, Lidi, and Bulon islands. In Bulon, To Kiri's wife died, and three other friends decided to settle down. But To Kiri, his daughter Teh, and the friend named Jaebeenae continued traveling north.

On Lanta island, To Kiri married an Urak Lawoi' woman named Mi-ah and had a son named Sabu and a daughter, Maepa. Recognizing the rich natural resources of the Adang Archipelago, To Kiri readily agreed when Praya Poomnarpakdee, chief of Satun (tenure 1900-1914), with whom he was apparently close, suggested bringing the Urak Lawoi' to settle.¹⁶ The Urak Lawoi' were needed



Map 1: Main coastal and island communities of Urak Lawoi' and their population, Andaman Sea, Thailand¹³

13. Sources of population figures: Sapum Bay, Sireh Island, and Rawai Beach on Phuket Island from field surveys by Asia Resource Foundation 2006; Chalong Bay, Phuket from Makboon 1981; Phi Phi Don Island from an estimate based on the village sign for Urak Lawoi' village in 1998; Lanta Yai Island from Granbom 2005; Bulondon and Bulon Lee islands from a field survey in 2006; and Adang and Lipe islands from the statistics of the sub-district administration office (TAO 2005).

14. To is used by the Urak Lawoi' before an elder's name to show special respect.

15. Nga-saman (1991:97) mentions that To Mamad lived on Lipe before the arrival of To Kiri.

16. Ukrit 1989; Viriyakosol, personal communication.



Photo 2: To Kiri wooden statue

To Kiri, Magic Leader

Along with his leadership, To Kiri is known for his magic power to protect the Urak Lawoi' from outsiders, wild animals, and natural disaster. According to one story, he was able to escape from a capsized boat by riding a shark to Bulon island. In other stories, he was able to disguise Lipe island from being sighted by pirates, and to protect the Urak Lawoi' from Japanese soldiers during World War II. It was said that To Kiri and his Urak Lawoi' wife Mi-ah were able to catch or stop the bullets of Japanese soldiers. People believed that he could speed rowboats to the mainland. To Kiri performed ceremonies paying respect to the sea and sea animals, to call schools of fish to come near shore, and to ask for their abundance. People also admired his ability to predict a storm, and to calm or change its direction. He was able to predict and address outbreaks of illness.

by the Thai government, in fact, to prove to British colonial administrators of Malaysia that the Adang Archipelago belonged to Thailand because it had been settled by a Thai population when national borders were being established in 1909. Over the next few decades, To Kiri drew Urak Lawoi' to the Adang Archipelago from Lanta island in Krabi and Sireh island in Phuket.¹⁷ He was appointed the first village head of Lipe island and, although not Urak Lawoi' himself, is considered their most revered ancestor in the Adang Archipelago.

“Political placemarkers for Thailand”

To Kiri died probably in 1949, supposedly from the bite of a poisonous snake sent by a jealous former admirer of Tik, a third wife he took on Lipe. His descendants continue to exert powerful influence as leaders and property owners in the Adang Archipelago.

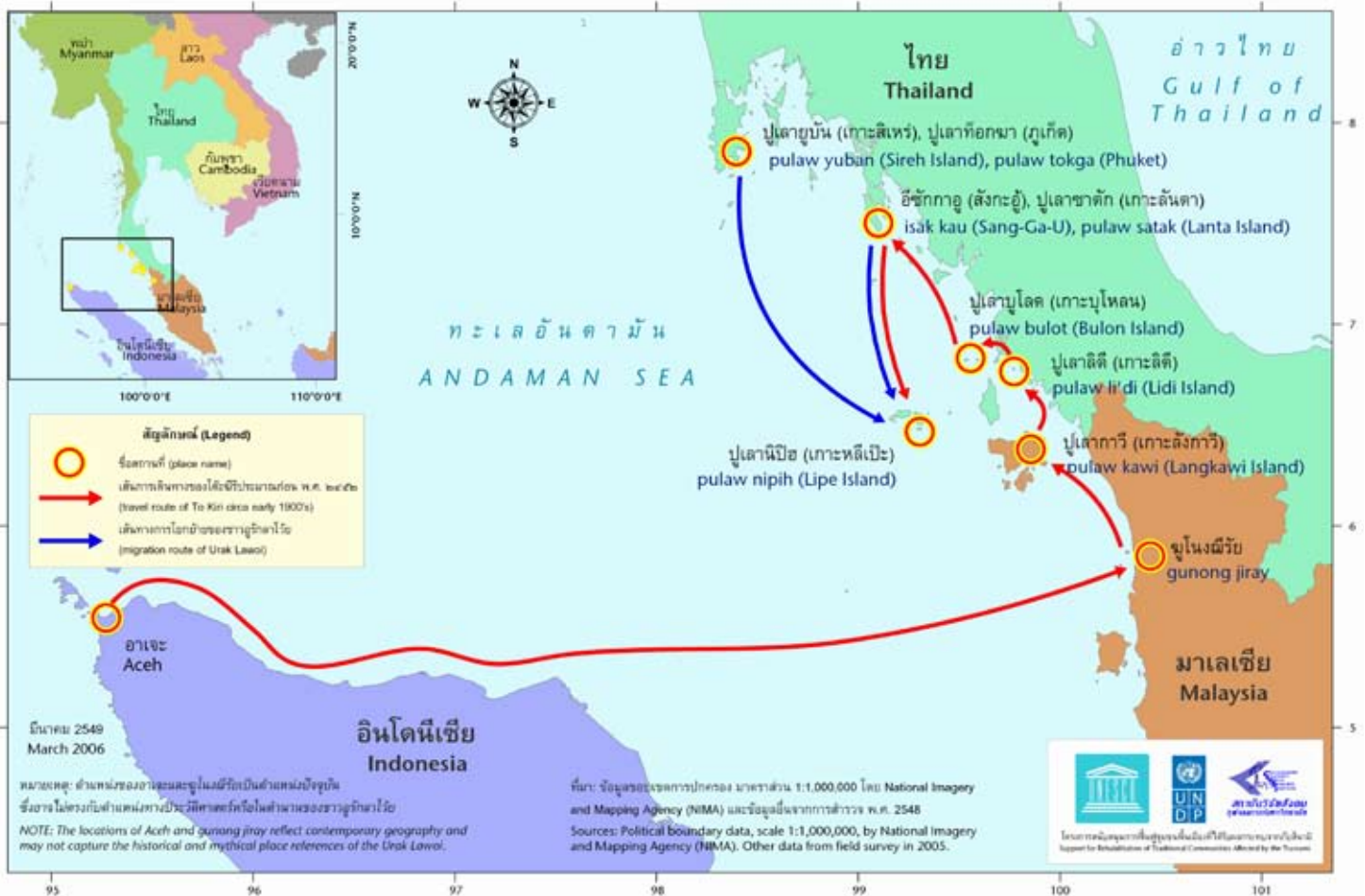
The population of the Adang Archipelago increased during World War II as more Urak Lawoi' migrated from the mainland to flee the wartime draft. Urak Lawoi' settlement of the archipelago was scattered and decentralized. According to elders, there were formerly eight village settlements on Adang island and three on Rawi island, all on the beaches, until the mid-1980s. There were also seasonal campsites on beaches all over the archipelago, established during their nomadic foraging trips during the dry season, which are called *bagad*.

17. There is no record of how many Urak Lawoi' first settled the Adang Archipelago. The oldest estimate by one of the first fish brokers was 40 to 50 houses on Lipe in the 1950s.

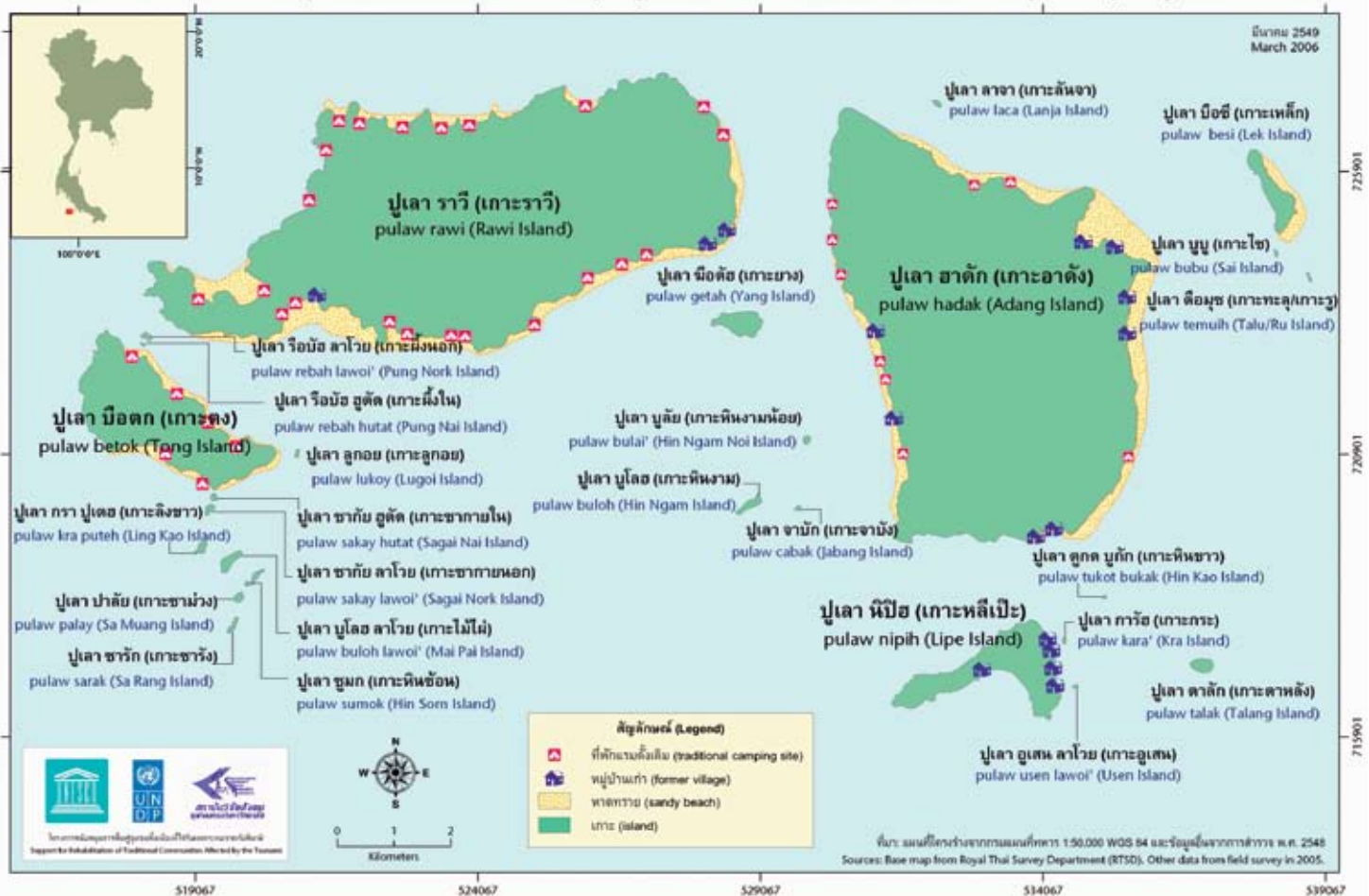
The only other people known to have frequented the Adang Archipelago were the crews of merchant ships traveling through the Straits of Malacca, and sea pirates who used the Tarutao and Adang archipelagos as bases to attack them during World War II. Many of these pirates were actually wardens and prisoners of Tarutao Prison in the neighboring archipelago whose supplies had been cut off by the war. Some places in the Adang Archipelago still bear the names of merchant ships that were attacked by pirates, including the largest islands, Adang and Rawi (see Appendix B, “Adang Archipelago Place names and Stories”). It was not until 1946 that the British Royal Navy rid the area of pirates.

B. Identity

In their language, the Urak Lawoi’ call themselves people (*urak*) of the sea (*lawoi*). In Thai they sometimes refer to themselves as *chaao lay*, people of the sea, where *chaao* means people and *lay* is taken from the Thai *talay* (sea); *chaao nam* (“people of the water”); *chaao ko* or *kon ko* (“people of the island,” where *kon* also means “people”); and finally *thai mai*, “new Thai,” a term introduced in an attempt to integrate the Urak Lawoi’ into Thai society. Unlike other sea-nomadic peoples such as the Moken, the Urak Lawoi’ of the Adang Archipelago have long been considered Thai,



Map 2: Travel route of To Kiri and migration routes of Urak Lawoi' to the Adang Archipelago



Map 3: Former villages and traditional camping sites of Urak Lawoi' in the Adang Archipelago

since their settlement of the area was used to demarcate Thai territory in the 1910s. Nonetheless, it is not uncommon for people to identify them inaccurately with other sea-nomadic peoples, such as the Moken and Moklen.

In the early 1900s, a few Western writers referred to the Urak Lawoi' as *orang laut*, Malay for "people of the sea."¹⁸ This phrase was used to refer to all sea-faring populations, however, including nomads, fishermen, and pirates. In Thai documents, the Urak Lawoi' are collectively referred to as *chaao lay* or *gypsy talay* because they are partly nomadic. "Sea gypsy" has become

“Urak Lawoi' means people of the sea.”

the term used in tourist brochures. "Sea nomads" has also been used, particularly in German and Dutch writing.¹⁹ One writer argued that "strand dwellers" would be a more appropriate term,²⁰ as the Urak Lawoi' traditionally lived in villages on the beach, not in boats, like the sea-nomadic Moken.

18. Hogan 1972: 206.

19. Sopher 1977: 51.

20. Hogan 1999: 1. A strand is defined as land bordering a body of water, such as a beach.

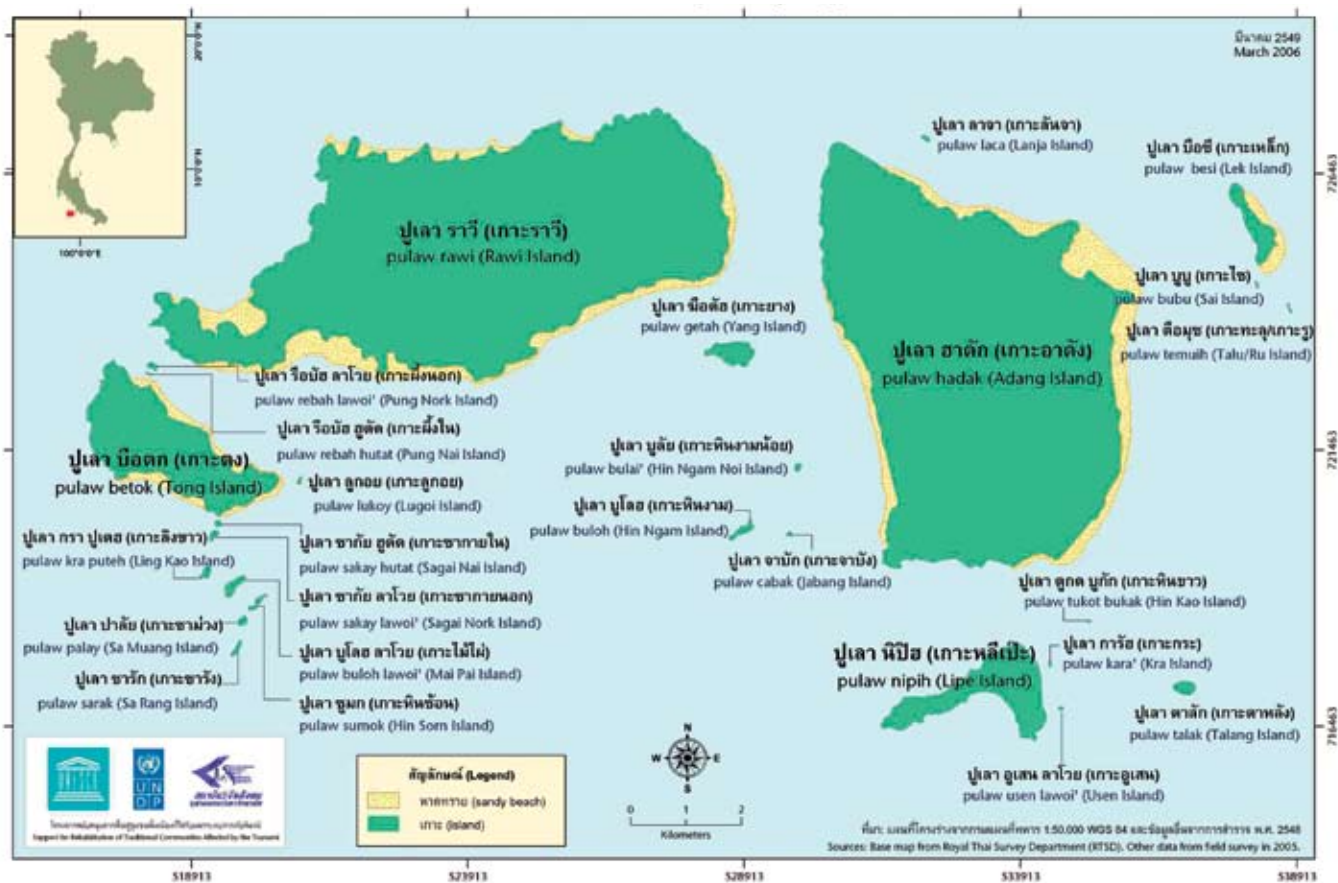
III. The Adang Archipelago

Remarkable for its virgin forests and diversity of marine life

Today the Adang Archipelago is part of Tarutao Marine National Park in Satun province, Thailand. The archipelago covers more than 310 square kilometers and consists of two larger islands (Hadak or Adang and Rawi), three moderate-sized islands (Betok or Tong, Lipe, and Besi or Lek), and some twenty small islands. It is located approximately 76 kilometers west of Pakbara Harbor in Satun, in the southern part of the Andaman Sea, approximately between latitude 6°28'- 65°35'N and longitude

99°09'-99°15'E.

Geologically the islands of Tarutao National Park form part of the Sunda Shelf; they were formerly hills on dry land. Rising seas fed by melting ice caps cut them off from the mainland about 8,500 years ago.²¹ The mountains of the Adang Archipelago consist of rugged granite hills formed during the Cretaceous Period with some quartzite and shale²² (see Appendix C for a detailed description of individual islands).



Map 4: Islands of the Adang Archipelago

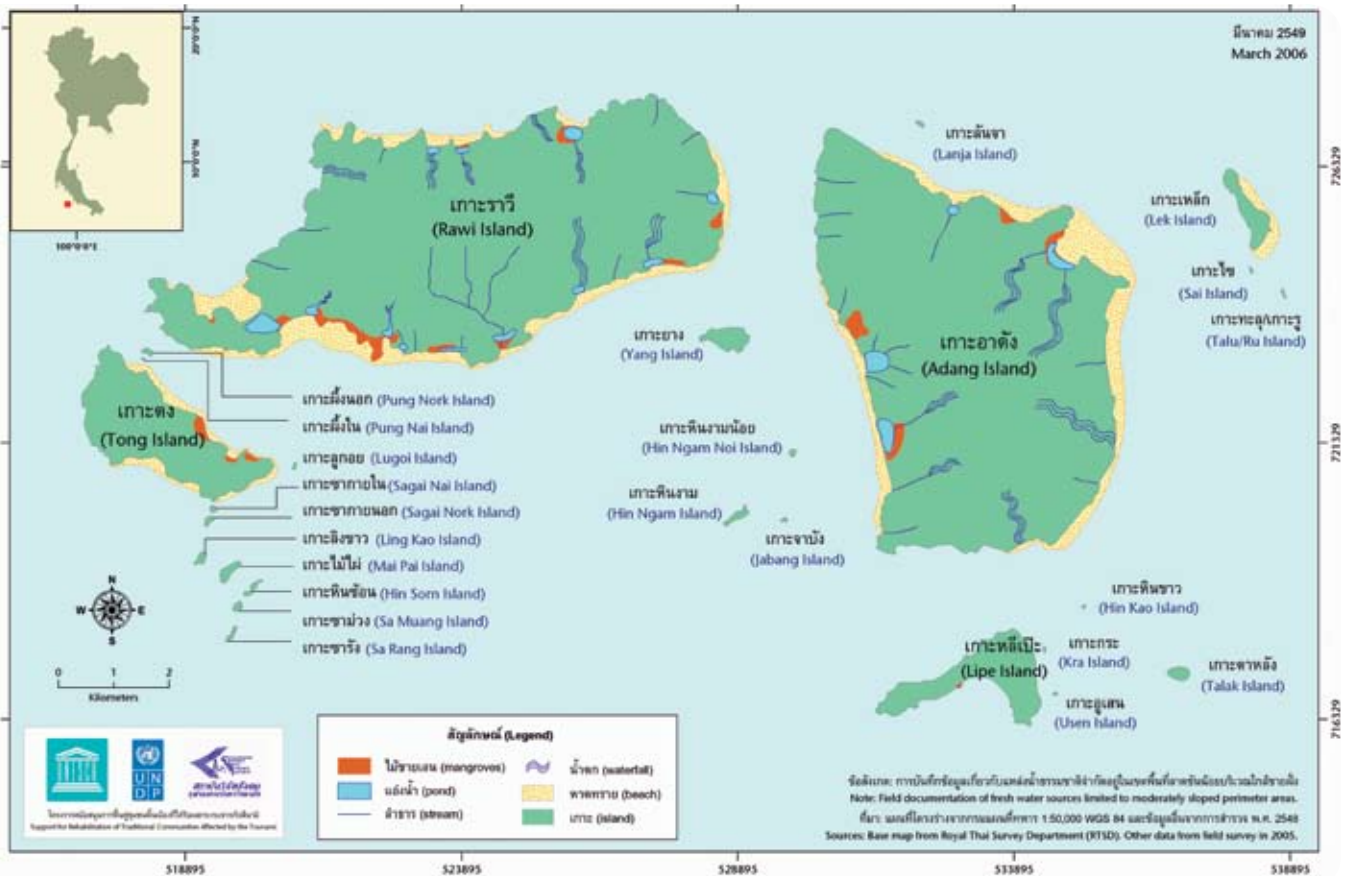
21. Gray et al. 1994: 82.

22. Department of Anthropology and Social Sciences 1992: 23.

From a boat, Adang and Rawi appear as mountainous islands nearly covered in thick forest. Eighty-five percent of the archipelago's rich forestland is moist evergreen, while the rest contains dry evergreen, mixed deciduous, mangrove, and beach forest (see Appendix D, "Major Types of Forests and Species in the Adang Archipelago"). The northwestern sides of most of the islands are bare, rugged, and rocky. Where the mountains meet the sea, there are many secluded beaches and bays, made even more spectacular by towering sheer cliffs on the northwestern coast. Brackish swamps, freshwater streams, and small pools can be spotted along the coastlines. Adang and Rawi have several watersheds, waterfalls, and rivers. Lipe, which once had large areas of wetland, now has only groundwater. All

the islands are surrounded by crystal-clear ocean containing a wide variety of coral and reef fish. The sea can vary enormously in color, from pastel aquamarine to deep blue by the reefs.

At least 288 species of fish²³ and more than 210 species of coral²⁴ have been identified in the archipelago. Typically, fringing reefs are found along coastlines that do not directly face the southwest monsoonal wind. Reefs in the Andaman Sea typically are found within 50 to 300 meters of shorelines, at a depth of 3 to 12 meters,²⁵ and are healthier overall than in many areas of Thailand. A recent sampling of 10 reefs found an average ratio of live to dead coral of 1.1:1 on the reef flat, and 1.3:1 on reef slopes.²⁶ There are two high and two low tides in 24 hours.



Map 5: Freshwater sources and mangrove sites in the Adang Archipelago

23. Phuket Marine Biological Center 1998: n.p. About 70 percent of the fish consisted of damselfish (*Pomacentridae*), goby (*Gobiidae*), wrass (*Labridae*), grouper (*Serranidae*), cardinalfish (*Apogonida*), blennie (*Blenniidae*), parrotfish (*Searidae*), butterfly fish (*Chaetodontidae*), snapper (*Lutjanidae*), fusilier (*Caesionidae*), and bream (*Nemipteridae*).

24. Phongsuwan and Chansang 1987: 142.

25. *Porites lutea* was the most abundant species.

26. Phongsuwan and Chansang 1987: 152.

IV. Traditional Way of Life

The establishment of Tarutao National Park in 1974 accelerated a process of modernization that is introducing the Urak Lawoi' to the contemporary world, transforming nearly every aspect of their lives. The most important factor in this change is their switch from being semi-nomadic to being sedentary, particularly since it has taken place without relocation. Where they once fished during the monsoon season and foraged widely around the archipelago during the dry season, gathering what they needed to subsist, they now remain mostly on Lipe, fishing commercially and working in tourism in the dry season. They have largely abandoned traditional foraging practices and scattered settlements.

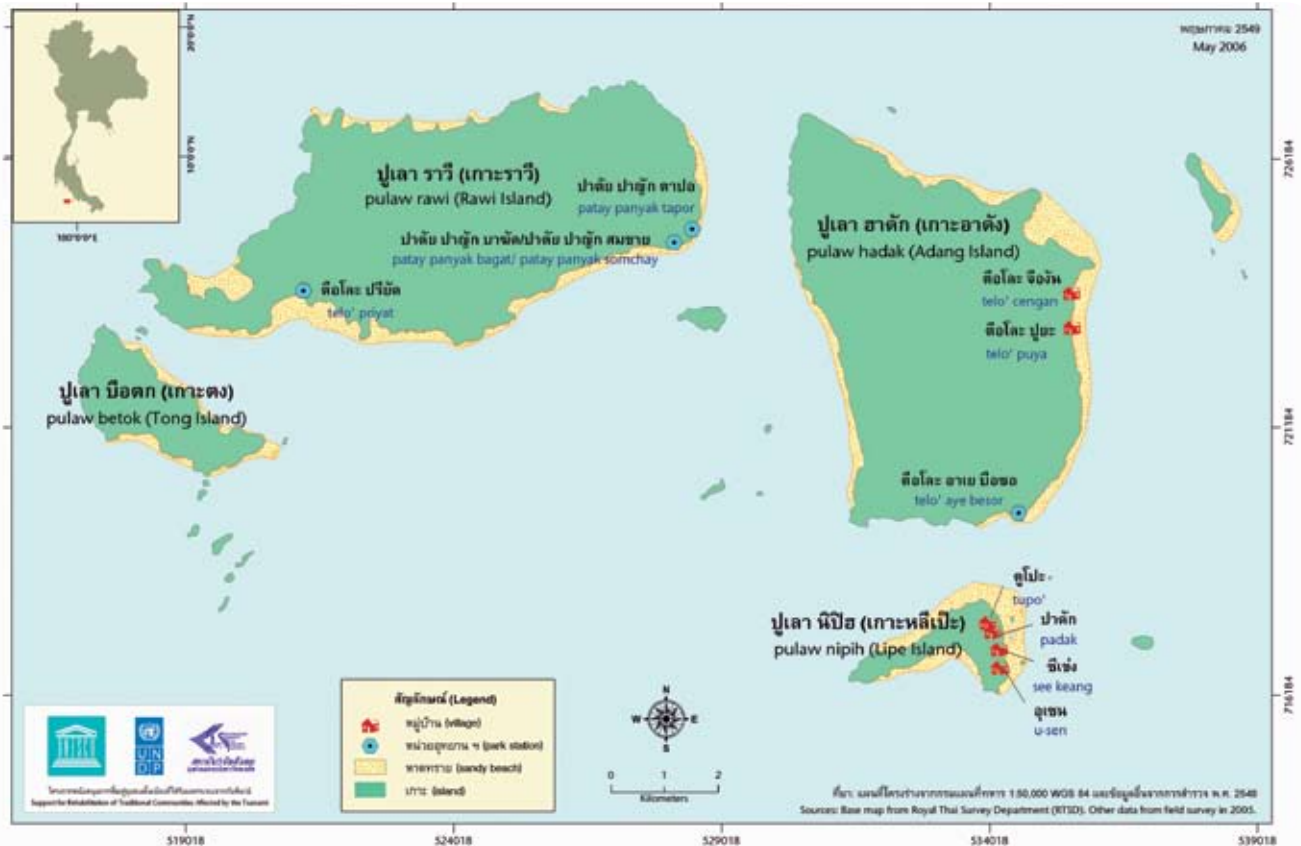
Many Urak Lawoi' now call themselves not only "people of the sea" but also "people of the island" (*chao ko* or *kon ko*). With the exception of a few former village sites that have been turned

“Let’s go bagad.”



Photo 5: Urak Lawoi' man picking coconuts (Courtesy Brendan Carroll)

into park stations, their scattered settlements are deserted and overgrown with vegetation, recognizable only by the big fruit trees, especially coconut,²⁸ that were planted nearby.



Map 7: Villages of Urak Lawoi' and park stations in the Adang Archipelago in 2006

28. Engelhardt (1989:138) reports that coconuts represented a large share of the plant diet and were used as a source of water on fishing trips and journeys by boat. To Kiri brought coconuts from Satun to several islands of the Adang Archipelago. Not only have they been consumed by the Urak Lawoi', they have also been a nutritious traveling food that did not require preservation. Coconuts also have been sold on the mainland and traded with commercial fishing boats for necessities such as ice or even gasoline. Trade in coconuts has proved particularly useful in times of difficulty. The Urak Lawoi' sprouted coconuts and planted them whenever they moved to a new site, so the age of a tree gives a clue as to how long ago the site was occupied.

Tarutao National Park

The history of Tarutao National Park as state property begins during World War II. Tarutao island in the neighboring archipelago, about 60 kilometers away, came under state administration as a penal colony for serious felons and high-ranking political prisoners from 1939 to 1946. At its peak, there were more than 3,000 prisoners. After the penal colony was dissolved, Tarutao remained state property under the Department of Corrections. In 1972, Thai Forestry Department officials surveying the area recognized its potential, and on April 19, 1974, the Tarutao and Adang archipelagos became Thailand's eighth national park, with 51 islands covering a total area of 1,490 square kilometers, of which 85 percent is marine.

With its wide variety of marine and terrestrial ecosystems offering outstanding scientific value, as well as its exceptional natural beauty, Tarutao was nominated as a World Heritage Site in 1990. But problems with illegal dynamite fishing and trawling that had severely damaged reefs, plus the drastic loss of nesting turtles, kept Tarutao from meeting the criteria for inclusion under the category of natural property, and the area ultimately was not recommended. Today, dolphin, sea turtle, giant clam, and lobster are among the species protected in the Adang Archipelago.

As of 2006, there were several park stations located on Tarutao island, with headquarters at Pante Malaga Bay. In the Adang Archipelago, a park office with simple tourist accommodations was established at Telo' Aye Besor on Adang in 1978. Additional offices are at Telo' Priyat, Patay Panyak Bagat, and Patay Panyak Tapor on Rawi.

A. Formerly semi-nomadic

Although they are often referred to as sea nomads, the Urak Lawoi' were nomadic only on their foraging trips, and always maintained permanent houses on land. They developed a subsistence strategy well suited to the area. Nomadic food foraging during the dry season, November to April, allowed them to make use of resources from throughout the Adang Archipelago without overexploiting any one resource or location. Foraging periods ranged from a couple of days to several months, depending on the distance traveled, weather, and harvest conditions. A longer overnight



Photo 6: Temporary shelter

“The Moken Pulaw²⁹ refer to Urak Lawoi’ as orang lonta or orang papae (“people of half land” or “people of half sea”), because they live on land but make a living from the sea.³⁰”



foraging trip is called *bagad* in the Urak Lawoi’ language. It was common for an entire family to go *bagad* together. They would choose a beach protected from strong winds, near fresh water, and build a simple hut shelter with an elevated bamboo platform to cook and prepare food. Often they slept on mats on the beach. They returned home with the rainy monsoon season, when fish and sea products are abundant near shore.

B. Life centered on the sea

As their name indicates, the Urak Lawoi’ are tied to the sea, which is for them home, source of livelihood, playground, a dwelling place of spirits, and ceremonial ground. Their entire culture is based on this relationship to fishing and the sea. Their houses were usually built on the beach, and it was common to sleep outside during the dry season and on full moon nights, for it was cooler and allowed them to keep an eye on the weather and on their boats. Some would explain that they had to have the sea and their boat within view to live;³¹ others said

29. According to Ukrit (1989: 16), the Moken Pulaw were one of the two groups of sea-nomadic Moken people. The Moken Pulaw lived on islands of the Andaman sea including Prathong, Surin, and Similan islands, while the Moken Tamab lived on land, such as the coastal areas of Phang Nga and Talang on Phuket.

30. Ukrit 1989: 15.

31. Wongbusarakum 2002: 89.



“They walk and swim in the water like us on the land.”³²

Photo 7: Urak Lawoi’ trap fisherman (Courtesy ZDF German TV)

they could not sleep unless they heard the waves.³³ Even though the men work very hard at sea, they begin to feel restless after being on land for more than a few days.

The Urak Lawoi’ are known for their ability to deep-dive, traditionally with just small tailored goggles made of carved wood and glass. They have an intuition about the weather and can navigate to islands beyond the horizon.³⁴ Their ceremonial songs are full of references to the tide, seashore, traveling by boat, and fighting the wind and currents.³⁵

C. Subsistence economy

The Urak Lawoi’ owned resources communally in the Adang Archipelago, and all members of the community had free access to them for subsistence purposes. Foraging amid the rich natural resources of the archipelago allowed the community to survive without outside assistance. Their economy could be described as an immediate-return system. Production occurred daily, without special advance labor, so that what was gathered during the day was eaten in the evening, with hardly any setting aside of

32. Kruahong 1998: 37.

33. Hogan 1972: 213.

34. Hogan 1972: 213.

35. Ukrit 1989: 175.

“What you gathered in the morning,
you eat in the evening”
seems to be an engrained habit.³⁶”



Photo 8: Cooking fish
(Courtesy Brendan Carroll)

resources for future use. Preservation by salting and drying were used mainly for sale rather than for future consumption. In general, planning or saving for the future was not common.

This pattern of livelihood practices served to sustain and replenish environmental resources, because the Urak Lawoi’ harvested only what they needed, took only mature fish (juveniles and smaller fish were freed), shared resources within the community, and maximized the productivity of the ecosystem by foraging. Traditionally, sea-nomadic groups did not preserve their catch,³⁷ possibly because everyone had access to resources, and sharing of food within the community provided basic security for all.

The Urak Lawoi’ have long traded for necessities such as rice (their main staple) and spices such as chili pepper, garlic, and shallots in Gantang, Trang province, or Ko Sarai, Satun province. Many decades ago they learned from outsiders how to cultivate the land, and rice was grown on Lipe. Vegetables and fruit trees are grown near homes and around streams or rivers. Garden crops include cucumber, eggplant, melon, bean, pumpkin, chili pepper, and lemongrass. Favorite fruit trees include mango, wild mangosteen, jackfruit, coconut, cashew nut, granate apple, banana, and pineapple.

D. Minimal material possessions

The principle of no accumulation applied to material possessions as well. A typical household possessed a house, a small boat, simple tools for harvesting and cooking, and simple clothes. Most of these were made of resources available locally or acquired by barter. Investment for future return does not seem to have been prevalent.

Their houses were built on maloi (*Hopea ferrea Laness.*) stilts³⁸ about 0.5 to 2 meters above ground and accessed by a ladder with an odd number of rungs, often three. *Atakgudjab*, or wild nipa palms, were used for roofing, while split bamboo was woven to make walls, doors, and windows. House floors were also made of split bamboo, with the smooth side up. Rattan was used for binding instead of nails, which made for a strong house frame that could

36. Hogan 1972: 214..

37. Sopher 1977: 292.

38. The whole log is popularly used as stilts because it is a very hard wood that can last a generation.

“Not having a boat is like not having hands and feet.”³⁹

withstand the monsoons. A single panel door might be found at both the front and the back of the house, but windows were not common. The kitchen was usually in the back. Spring and rain water were used for drinking, while bathing took place in streams or falls. The shore and sea served as waste disposal sites, cleared with each rising tide.

Boats, however, formed the most essential part of Urak Lawoi' material culture. Without boats, they could not exploit the diversity of resources around the archipelago, sell their fish on the mainland, get dry goods, or visit their relatives around the Andaman Sea. Before the introduction of long-tailed motorized boats in the 1970s, each household had a rowboat about 3 meters long, sometimes equipped with a sail. They were handcrafted of locally available wood using simple axes, made as part of a community effort involving various members' help. Caring for their boats would even influence the Urak Lawoi' choice of residence; until recently one would see boats from the east side of Lipe anchored at sheltered spots on the north and south sides for three to four months of the year. Households would move to such temporary shelters to be near their boats.

Cooking and eating utensils traditionally consisted of coconut and marine shells, and food was eaten with the hands. Charcoal, coconut husks, and dry woods were used for cooking fuel. Mortar and pestles were carved of local wood, while pots and pans were generally acquired from outside.

In terms of clothing, the women wore *gra joom oak*, a sarong tied above the chest and covering the body to the mid-shin, or a sarong tied at the waist with a shirt. Men wore sarong or, when fishing, loosely tied fishermen's pants.



Photo 9: Wooden boat toy



Photo 10: Making thatched roof from nipa palm



Photo 11: Rowboat

39. Kruahong 1998: 41.

Use of Local Resources for Subsistence Living

The Urak Lawoi' once used a wide variety of resources from the forest. Edible animals include birds, wild boar, mouse deer, and reptiles. Popular food plants include to' de' (*Phyllanthus albidiscus*) and priya (*Melientha sauvis*) eaten as vegetables, and hubihara (*Dioscorea hispida* Dennst. var. *hispida* or Asiatic bitter yam), a root plant that provides starch to supplement rice as a staple (see Appendix E, "Plants Used by the Urak Lawoi' for Food").



Photo 12: Priya

Local hardwoods such as maloi (*Hopea ferrea* Laness. or *takian hin* in Thai), nibok (*Oncosperma tigillarum*; Jack Ridl.), and ga u ma ti (*takian sai* in Thai) are used to build houses, furniture, and boats. Bamboo was widely used for fishing traps, house floors, walls, and platforms. Coconut husk dipped in tree sap and wrapped in papyrus leaf is used as torches. Baru (*Hibiscus tiliaceus* L. or *po talee* in Thai) was used to make rope and caulking material for boats. Pandanus (*Pandanus odoratissimus* L.f or *lamjiak* in Thai) is used to make mats, baskets, and tents. Tree barks such as sama' were used to dye clothes and rope. Dry woods, coconut husk, and charcoal are used as cooking fuel.

In addition, many local plants are used medicinally (see Appendix F, "Plants Used Medicinally by the Urak Lawoi'"). For example, the leaves of the sugar apple tree are crushed, mixed with water, and applied to the forehead of a child who has fever. Leaves of tho'tho or pho'pho' (*Passiflora foetida* Linn.) are mixed with lime and applied to the neck and abdomen to treat asthma.



Photo 13: Hubihara

The coral reefs around the archipelago also are home to favorite foods, such as fish, spiny chiton, sea cucumber, shellfish, to nan (*pling sai* in Thai), and turtles and their eggs, which are abundant especially during the nesting period, September to December (see Appendix G, "Favorite Urak Lawoi' Marine Foods"). Marine animals also have curative uses. Broken staghorn coral found on the beach is boiled to make a treatment for kidney stones. Grilled, finely pounded, and boiled gornonian sea fans are used to treat asthma, kidney stones, and hemorrhoids. Pling kamad sea cucumber is boiled to make a treatment for burns and internal injuries (see Appendix H, "Sea Life Used Medicinally by the Urak Lawoi'").



Photo 14: Nibok



Photo 15: Baru



Photo 16: Tho'tho' or pho'pho

E. Social life

The Urak Lawoi' live among themselves in nuclear-type families, in a "face to face" type of community, among relatives.⁴⁰ Typically, couples marry in their mid-teens, and the bridegroom moves to the bride's home area. Traditionally, men and older boys took charge of fishing at sea. Women might help with hook-and-line fishing, gathering sea life such as sea cucumber and shellfish at low tide, and processing the catch by cleaning, drying, and salting. The main responsibilities of women and older girls at home were child-rearing and household chores such as cooking, washing, and cleaning. Some also did the planting and handicrafts such as rattan basket weaving and pandanus mat making, as well as collecting fuel wood and tree sap for boat making and maintenance. Socially and economically, an Urak Lawoi' family would

find it difficult to survive without a man. Fishing and woodcutting — fundamental for subsistence in the Adang Archipelago — are men's work. Unmarried women are rare, and remarrying is not uncommon.

Many Urak Lawoi' groups consider themselves kin who share resources and help each other in times of need. For example, in the past each family had a boat built through community effort. Trap fishermen in a boat would divide their income evenly, regardless of task. The strong young men would dive, while those younger and older looked after the boat and did other jobs outside the water. Sharing harvests is still practiced today. Urak Lawoi' fishermen do not mind sharing their catch, and in the Adang Archipelago they are proud of their food-sharing practices, no longer so common among other Urak Lawoi'. A common



Photo 17: Temporary shelter site at Patay Panyak on Lipe in 1997

40. Hogan 1972: 215.



Photo 18: Urak Lawoi' man paddling a boat

“Here, brothers and sisters can ask from each other, no need to buy *gab kao* (things eaten with rice).”

saying is: “Here, brothers and sisters can ask from each other, no need to buy *gab kao* (things eaten with rice).” Yet the Urak Lawoi' do not have an economy based on reciprocal obligations or sustained commitments, a social characteristic that appears common among nomadic hunter-gatherers. They have been described as freedom-loving.⁴¹ A granddaughter of To Kiri said they did not like to tie themselves to wage-earning jobs and could not be coerced by money.

The Urak Lawoi' also do not show much interest in community-wide leadership. Their semi-nomadic culture may not have oriented them toward large group action, as their sense of community seems to be less developed than in a typical rural Thai community. The Urak Lawoi' tend to be individualistic, and their interests remain for the most part within kin and small-group relationships. Villagers look after their households, but are less concerned about working to benefit the community as a whole.



Photo 19: Common woman's dress



Photo 20: Common man's dress

41. Kruahong 1998: 6.



Photo 21: Making bamboo walls
(Courtesy Geertjan Preyde)

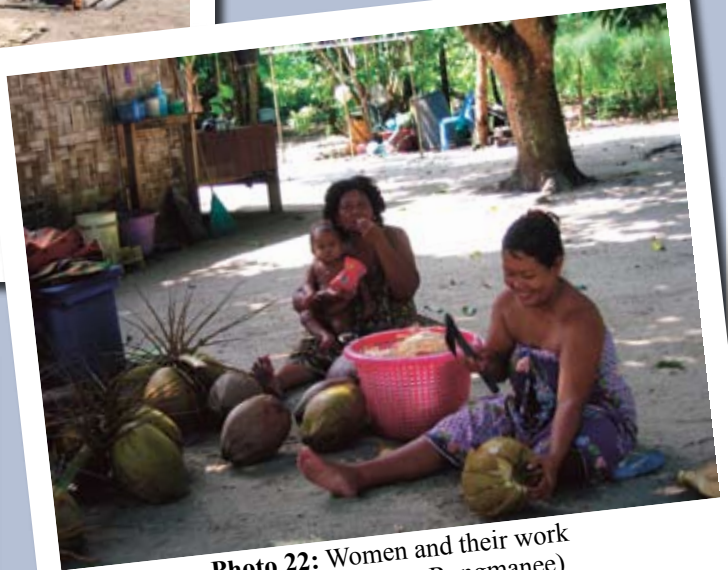


Photo 22: Women and their work
(Courtesy Soimart Rungmanee)



Photo 23: The oldest man takes care of the air hose, the youngest man the boat motor

The need to attend official meetings on the mainland and to host official visitors are seen as burdens of leadership. Being a peace-loving people, tolerant and forgiving, they avoid confrontation and conflict, especially with outsiders.

The Urak Lawoi' have been subject to authority, however, from outside interests. Community leaders have tended to be either descendants of To Kiri or outsiders — village heads or *taukay*⁴² — motivated more by business interests than a desire to lead or represent the community. The only leadership positions held by Urak Lawoi' are medicine man and/or *to mor*, a spiritual leader highly respected for his ceremonial, ritual, and healing roles.

42. *Taukay* is a local term derived from a term meaning “boss” in a Taechiew Chinese dialect. The *taukay* are brokers/wholesalers who hire local fishermen and then bring their catch to market to sell. They also maintain the boats and other equipment. The first *taukay* were of Chinese origin and came from Ko Sarai, Satun province, Thailand.

V. Fishing

For the first few decades after they settled in the Adang Archipelago, the Urak Lawoi' relied almost solely on fishing for daily subsistence. They were not significantly involved in commerce until the 1950s, with the arrival of the middlemen called *taukay*. Some traded or sold harvested sea products at nearby markets -- in Malaysia at Perlis and Langkawi, and in Thailand at Ko Sarai, Satun province, and Gantang in Trang province -- in exchange for necessities such as rice, garlic, onion, and chili pepper. Travel to the mainland and back could take a week by rowboat, so such goods were preserved by salting or drying.

Traditional Urak Lawoi' fishing practices were small-scale, based on local knowledge and skills, using materials available locally. Their main harvesting area was the coral reefs. Marine resources were so abundant that simple tools

Urak Lawoi' children learn to swim at the age of five or six, start fishing at nine or ten, and grow into skilled boatmen, divers, and fishermen.



Photo 24 Wooden carving of turtle hunting with a spear



Photo 25: Bamboo trap



Photo 26: Using hook and line to catch squid



Photo 27: Oysters on boulder



Photo 28: Cleaning sea urchins
(Courtesy Soimart Rungmanee)

and techniques sufficed, such as spears, hook-and-line fishing, bamboo traps, and gathering sea life in the intertidal zone. Formerly, catch size was dependent on uncontrollable factors, including the supernatural, so there was great reverence for the unknown and unseen. During the monsoons, when fish were abundant near shore and turtles came to nest, the Urak Lawoi' relied on hook-and-line fishing and gathering on the coral reefs at low tide. In the dry season, when food sources grew less abundant at home, entire families would go *bagad*.

A. Traditional methods

Spears. Thrown from a boat or while standing on the reef near shore, spear fishing was a popular way to hunt turtles and fish. A turtle spear had a metal hook attached to a rope, while a fish or cuttlefish spear had three spikes and no rope. Spear fishermen also traditionally used small custom-made wooden goggles as they hunted underwater.

Hook-and-line. One of the oldest fishing methods, hook-and-line fishing is still practiced today by males of all ages and sometimes



Photo 29: Drying sea cucumbers

“Diving for mollusks in the dry season, hook-and-line fishing in the monsoon season.”

women. It was traditionally practiced both day and night, beginning with a hunt for bait. Fish caught during the day included mackerel and trevally; at night, grouper, emperor, and snapper were the main targets. The monsoon season is considered more favorable for hook-and-line fishing. Despite strong winds and currents, fishermen head out immediately if



Photo 30: East side of Lipe

they notice sea birds hovering over the ocean, a sign of schooling mackerel. When mackerel are plentiful in the area, hook-and-line fishing also takes place at night — early in the evening unless the moon is bright enough to allow late-night trips. Hook-and-line fishing when the mackerel are running is among the most rewarding activities for Urak Lawoi’ fishermen, as fish upon fish gets reeled in, each representing a contest won for a valuable reward.

Trap fishing. Traps (or *bubu* in Urak Lawoi’) have been used to catch all kinds of bottom-dwelling fish. Traps approximately one meter long were made of bamboo or rattan -- a strong, pliable, readily available material well suited to bending into semi-cylindrical frames. Such

natural materials attract fish as they decay. Traps are usually weighted or tied to rocks on fringing reef slopes or rock piles at a depth of 5 to 20 meters, a comfortable distance for the Urak Lawoi' to dive. The trap is a constant self-baiting device; once placed, it becomes part of the environment, with small fish attracting larger fish, and all surviving comfortably until the trap is collected, every four to five days. Such a trap can be moved to another location or angle

without emptying. Urak Lawoi' fishermen triangulate prominent landmarks to locate their traps, so above-water buoys are unnecessary. Traps typically last a few months before being allowed to biodegrade naturally.

Harvesting other sea life. It used to be that many non-fish species were gathered. The Urak Lawoi' had a saying that means roughly "diving for mollusks in the dry season, hook-

Favorite Traditional Dishes

When asked about their favorite marine foods from the past, all Urak Lawoi in a study conducted in 2005 mentioned tonan (pling sai in Thai), while more than half mentioned guyoi (hoi lin in Thai or spiny chiton in English). Neither animal is easy to spot, and many outsiders find it unthinkable that they can be eaten. Tonan burrow in the sand, and can be detected by their tubular sand deposits only with training. Guyoi stay in the cracks and crevices of rocks, and expose themselves only in shady areas, or during times of day when sunlight is weak. The chiton attaches itself to rocks very firmly, and requires skill and a tool to remove.

To make tonan into a dish, the animal first needs to be rolled until it hardens, so that the skin, which smells unpleasantly strong and like seaweed, can be removed. After the innards are removed, the animal is washed in salt water until all the smell is gone. It is then cut into small strips. The Urak Lawoi "cook" it with the acid of lime juice, and serve it with roasted coconut flakes.

For a guyoi dish, the chiton is first blanched. The innards, shells, and spines are removed, it is washed thoroughly and cut into bite-size pieces. These are mixed with a curry paste made of finely pounded chili, lemongrass, and shallots. Meanwhile coconut meat is roasted until crispy, then pounded until it yields oil. This coconut oil and tamarind sauce are added to the dish together with a pinch of salt (and optional sugar), and mixed well to make a savory dish.



Photo 31: *Guyoi*



Photo 32: *Tonan*



Photo 33: Spotted king mackerel



Photo 34: Hook and line fishing for spotted king mackerel

“Today many fish for money,
not food.”

and-line fishing in the monsoon season.” What they call mollusks (*hoi*) includes different kinds of mollusk, crustacean, sea cucumber, and sea urchin. Everyone, including women and children, harvested mollusks for fresh meat. Sea cucumber was used both as food and medicine. *Tripak klamad* (or *pling kamad* in Thai),⁴³ a type of sea cucumber used to treat burns and internal injuries, was also sold at market in Malaysia.

B. Modified practices

Growing industrialization of the fishery since the 1970s has been marked by capital investment in fishing equipment by business owners, rather than by fishermen themselves. Beginning in the 1950s, many Urak Lawoi’ men in the Adang Archipelago started to work for *taukay*. Today these fishermen are paid in cash for their catch every six months, by weight, minus whatever expenses they owe the *taukay*. Since the Urak

Lawoi’ now fish for money rather than to eat, market demand as expressed by the *taukay* dictates the type and amount of fish that they catch. Since the 1990s, some Urak Lawoi’ have gone into business as *taukay* themselves, as the increasing availability of consumer goods has generated a desire for cash income and the opportunities it affords.

By law, harvesting of any kind is banned in parks, but the park management turns a blind eye to small-scale methods such as hook-and-line and trap fishing so that the Urak Lawoi’ can maintain their livelihood. In actuality, however, catch size and type greatly exceed what is needed for subsistence; what is brought home to eat tends to be only fish that are not worth selling. Fishing fleets have transformed into operations organized for maximum efficiency and yield. Inefficient traditional methods like spears are no longer used except for the occasional turtle taken from on

43. These sea cucumbers are used to treat burns and internal injuries. *Tripak klamad* species include, for example, *Stichopus horrens* and *Stichopus noctivagus*. The cucumbers are boiled in water. Both the liquid and body – to be grilled – are sold in Langkawi, Malaysia, as either a liquid or balm. The liquid is applied to burns or mixed with warm water and drunk to heal internal injuries. The balms are for external application.

The Taukay and the Urak Lawoi'

Among outsiders, the taukay have had the longest, closest, and most important relationship with the Urak Lawoi'. Their arrival to the remote Adang Archipelago in the 1950s formed a link to the outside world, allowing the Urak Lawoi' to market their products — fish, mollusk, sea cucumber, and turtle eggs — to markets in Thailand, Malaysia, and beyond, in exchange for goods such as rice, clothes, and liquor. Approximately 85 percent of Urak Lawoi' male household leaders who fish for a living work for a taukay, some for their entire lives.

The taukay originally were ethnic Chinese from mainland regions such as Satun, Thailand, and Perlis, Malaysia. Since before the national park was established, they have been the major influence on Urak Lawoi' use of marine and coastal resources in the Adang Archipelago through their purchasing decisions. The relationship can be characterized as one between patron and client, and be viewed both positively and negatively. Seen positively, the mutually beneficial relationship provides boats, fishing supplies, and cash advances to the Urak Lawoi' in exchange for their labor, skills, and knowledge. The Urak Lawoi' have a guaranteed buyer for their highly perishable catch while remaining free of sole responsibility for maintaining boats and fishing supplies. Limited in resources to fish competitively, or marketing channels to sell products on their own, most Urak Lawoi' prefer the economic security of working for a taukay, who serves as a source of credit, a secure livelihood, and assistance in times of hardship. The taukay perform

board a boat. Modern spear guns are used to catch fish for tourists, as during excursions.

Hook-and-line. Longline fishing, with and without baits, was one of the methods introduced by the *taukay* and employed from the 1950s to 1980s. Lines could be as long as 2,000 meters and have hundreds of hooks. Long lines required intensive preparation because the hooks had to be sharpened individually. This fishing method has since been replaced.

The type of bait used in hook-and-line fishing today depend on the target species, which tend to be economically valuable ones such as trevally, barracuda, emperor, grouper, and longtail tuna. Barred Spanish mackerel and spotted king mackerel are prime products during the monsoon season, especially in September and October. To catch spotted king mackerel, live fish such as Indian mackerel (*Rastrelliger kanagurta* and *R.*

faughni) are used, whereas whole carcasses or slices of small fusiliers are used to catch Pacific mackerel, red snapper, emperor, or Malabar grouper. Feathers are used to catch trevally, spotted king mackerel, hardtail scad, and tuna. Artificial bait is used to catch squid and cuttlefish. Hook-and-line fishing is now normally done during the day.

Trap fishing. For a period in the 1960s and '70s, big rattan traps (as large as 12 meters long by 7 m. wide and over 2 m. high) were used to catch a large amount of fish. Such traps needed to be unloaded by crane. Because of the high expense, the giant traps were discontinued and largely replaced by alternative high-yield methods such as dynamite and drive-in net fishing.⁴⁴ When these popular but illegal fishing methods were banned in the mid-1990s, trap fishing was revived with material support and loans from the provincial fishery. Today, trap

44. A July 1994 letter from the Fishery Office to the governor of Satun province stated that traps accounted for only 10 percent of fishing practices.

essential economic services provided by no other local institution.

It is also possible to see the Urak Lawoi' as trapped in servitude to the taukay because they are unable to break even on overhead costs and cash advances that they perpetually owe the taukay. They lack the capital to invest in boats and fishing tools. Many Urak Lawoi' are completely dependent on the taukay, who have exclusive rights to their catch at the price they offer. A small number of Urak Lawoi' have chosen to maintain their self-reliance and work independently, selling their products to a taukay on the mainland or hiring out as tour transporters. These fishermen usually own a boat and specialize in particular products, such as live grouper or shells. The growing cash economy in recent years has increased the number of Urak Lawoi' who are able to afford their own boats and make a choice about whether to work for the taukay.



Photo 35: Fishermen unloading and sorting fish at the landing site.



Photo 36: Rattan trap with plastic and steel wire

fishing fleets may be able to recover more than 40 traps a day, each of which can weigh as much as several hundred kilograms when full (though actual yields are often much smaller). Commonly practiced near shore in the archipelago's 25 square kilometers of rock or coral reef, trap fishing is estimated to yield at least 620 metric tons of fish per year.⁴⁵

Traps today are commonly made of rattan in combination with plastic and steel wire. The average trap, used at a depth of 10 to 20 meters, is about 250 centimeters long by 170 cm. wide and 100 cm. high -- a size that can be handled by the crew on one boat. Larger traps, used in deeper water, can be as large as 310 cm. long by 230 cm. wide and 130 cm. high, and require a group of fisherman on several boats. These deep-water traps yield larger fish and more of the same species. The catch also includes more high-priced fish, such as grouper and snapper. But the sites are farther and involve the risk of deep-diving. Between trips, fishermen spend their days on land making new traps, which takes one to three days for two or three men. Occasionally women and children help coil wires for the nets.

Harvesting other sea life. Starting in the 1950s, harvesting along the reefs and the

45. Coastal Resources Institute 1999: 2.10

Trap Fishing Trip

A trap fishing trip the author took in 1998 showed a slice of working life for Urak Lawoi' fishermen. The team was typical: four members on a boat equipped with a long-tailed engine, air compressor, and two sets of air hose or hookahs to allow the divers to work underwater.

We left Lipe island at 7:30 a.m. Each fisherman brought a lunch box. Somchai,⁴⁶ a man in his 40s, was the tailman. Tommy, 18, and Dej, in his 20s, were the divers. A team member I will refer to as the watcher was in his late 50s and kept an eye on the compressor, air hoses, and divers. The day started with a trip to Telo' Priyat on the south side of Rawi island to pay respect to the guardian spirit of the place and to wish for a good harvest. One of the two traps to be placed that day was pushed near the beach. Two men left the boat carrying a big cooking pot, a knife, and a water container. They headed to a big tree with a piece of cloth tied around it, knelt in front of it, and cut thin slices of pig's head from the pot. They made an offering of a tiny bowl of water and a giant clam shell containing a hand-rolled cigarette and the pork slices. The trap was then brought back on the boat, ready to be placed underwater.

Dej, the more experienced diver, was almost always the first to jump in the water and the last to get out. The divers always worked together except on the last dive, where Dej emptied a trap alone. The divers worked very efficiently. They were ready when the boat approached the trap site. They would hook up to a hose that was attached to a rope around the waist, run up the back, and connected to the diving mask through a small hole on the top right side. After each dive, they took off the air hose and rolled it up.

The two traps to be placed that day took approximately 10 to 15 minutes each. The first was placed on sandy bottom in shallow water about 5 to 7 meters deep. I could see the divers searching for rocks along the sea floor to weight the trap down. Then we went to Rawi, Adang, Tong, and small islands to the south, emptying 14 traps, eight before lunch. The divers located their traps very quickly by triangulating landmarks, needing no more than two minutes each, despite the lack of marking buoys. To retrieve a trap that had fish, one of the divers would tie a line to the top front of the trap. The other diver would come on board and help the watcher pull up the trap. Sometimes an empty plastic bucket was used, attached upside-down to the top front of the trap. The diver would put his head under the bucket and fill it with air from his mask until the bucket started to float and bring the trap to the surface. On one dive, two nearby traps were placed together underwater, and the divers chased the fish in one through the open door of the other, so only one trap needed to be pulled.

46. Names have been changed throughout the text to preserve anonymity.



Photo 37: Getting ready to place trap underwater



Photo 38: Fixing trap on the sea floor
(Courtesy ZDF German TV)



Photo 39: Using plastic bucket as flotation device
(Courtesy ZDF German TV)

As the boat traveled from trap to trap, the fishermen often rolled cigarettes and smoked. At these times and during our lunch break on the boat (grilled fish, hot and sour fish soup, and rice) their relaxed manner formed a striking contrast to their quick efficiency with the traps. Once a trap was brought on board, the fishermen worked quickly, sorting one or two fish at a time, wearing gloves to protect their hands. Fish that were under size or not for eating were thrown overboard; on other trips I witnessed fishermen using a lethal spike for this job. Certain species of grouper are highly valuable sold live in East Asian markets. These are kept alive on the boat until they are put in a floating cage at the harbor. The rest are placed in the bottom of the boat under a strong bamboo mat for shade. Ice was not used to preserve the catch, and some fish were still alive when we returned to Lipe. On this trip, no traps were lost, and every other one we visited had fish inside. The trap recovery finished around 3 p.m., and we stopped at Adang on the way back for fresh drinking water to take home. At the landing site on the east side of Lipe, the catch was sorted by species and/or price categories before weighing, which were recorded by the taukay. The boatmen did not even glance at the scale as the fish were weighed. Their catch included redbelly fusilier (mostly), streaky spinefoot, parrotfish, unicorn file fish, and goatfish. The total came to about two and a half baskets, or about 100 kilograms. Each fisherman took a few fish home for dinner. While we were unloading, another boat emptied three baskets of big fish, including emperor, red snapper, and grouper. A hook-and-line fisherman working for the same taukay came back with two narrow-banded king mackerel.

After we docked, while passing the school ground on my walk home, I saw the younger diver, Tommy, playing football. After a full day in the sun diving, he was running barefoot, chasing the ball, as his way of relaxing from a day's work at sea.



Photo 40: Urak Lawoi' diver with hookah



Photo 41: Rolling up air hose after each dive

intertidal zone yielded goods that could be sold, and for several decades ornamental items such as giant clam, pearl oyster, and top and murex shell were heavily harvested for sale, as were turtle eggs, dry cucumber, and the dried muscles of giant clam, which bring a high price in East Asian markets. Gathering along the shores was greatly limited by the establishment of the national park in 1974 and the convenience of having ice available to preserve fish. Many favorite foods such as sea turtle, giant clam, and lobster are classified as endangered and their harvesting is illegal, though sea cucumber is still collected seasonally. Only a few older women on Lipe harvest mollusk meat at low tide, and younger women occasionally collect oysters to eat at home and sell to other villagers. But the focus today is really on fish, which do not require the same time and labor to process for sale (shell, clean, dry, etc.) now that ice is readily available.

C. Introduced methods

Dynamite fishing. Introduced in the Adang Archipelago in the 1960s, dynamite fishing was popular because it was convenient, fast, and generated high yields. Long-tailed boats and hookahs (air supply from an on-board compressor connected to a diving mask) were used. In the 1980s it was common to hear explosions and see water plumes, even at the reefs in front of the school on Lipe.

The large sums made from dynamite fishing lured some Urak

Collecting Shells

An elderly Urak Lawoi' fisherman describes how people collected hoi muk kong (a type of pearl oyster found close to the shore) in the 1970s, when they were being harvested commercially:

"Shells were especially abundant around Rawi and Tong islands. We collected them at night. We used a kerosene lantern or torch made of a piece of bamboo wrapped with thick cotton material soaked in kerosene. The light source was attached to the side of the boat or carried by hand if the water was not deep. One man paddled and two to three others swam by the boat. The pearl oysters are found on top of the rocks. Many oysters could be found in groups at the right spots. A boat needed only to anchor, and the fishermen would collect them until the boat was full."



Photo 42: Decorative shells

“High investment, high yield,
high risk for higher reward.”



Photo 43: Long-tailed boats

Lawoi' men to work in waters where larger boats and scuba gear were used, such as the North Andaman Sea, Gulf of Thailand, and the waters off Myanmar and India. In the 1970s and '80s, nearly 100 Urak Lawoi' went to work for a *taukay* in Ranong who built row houses to accommodate them and their families. The work involved high risks from dynamite, deep diving, shark attack, and arrest by foreign officials for encroachment. Quite a few Urak Lawoi' men, including one of the Lipe village heads, lost their lives in dynamite accidents or suffered from decompression sickness from deep diving;⁴⁷ others were imprisoned in India or Myanmar for illegal fishing. Many Urak Lawoi' intended to save money and return, but earning a lot made them reluctant to go home too soon, and many spent their earnings on things not available in the Adang Archipelago.

When dynamite fishing was banned in the early 1990s, most Urak Lawoi' accepted that it

had involved high risks and damaged coral reefs (although the latter traditionally had not been a great concern of theirs). It is the fear of being arrested that seems to deter most Urak Lawoi' from blast fishing.

Drive-in net fishing. Different kinds of net fishing were introduced for the commercial harvest, including submersible, drive-in, and purse-seine nets. A drive-in net fishing method called in Thai *uan lorm hin* or *uan laum yeepoon* was introduced in the Adang Archipelago in 1977 and became popular through the mid-1990s, especially after dynamite fishing was banned.

Drive-in net fishing was commonly practiced at depths of about 10 to 20 meters. The net usually takes nine to twelve people chasing fish in the direction of a net bag, banging rocks or shaking a set of metal rings underwater to scare fish out of their hiding places in the reefs or rock piles and into the net. This method is considered highly efficient, as it requires low investment and utilizes the excellent diving skills of the Urak Lawoi', who use no special equipment except for a homemade weight belt tied around the waist and air supplied from an on-board compressor through a hose and a diving mask. Long-tailed boats follow the divers as they work.

In 1994, drive-in net fishing represented 60 percent of all Urak Lawoi' employment, compared with 20 percent for traditional fishing methods (10 percent for trap fishing, 5 percent in hook-and-line, and 5 percent diving for mollusks).⁴⁸

47. Decompression sickness, also referred to as the bends, is a diving injury that leads to pain, numbness, and potentially paralysis as a result of too-rapid ascent to the surface after a deep or long dive. If inert gases absorbed by body tissues at depth (mainly nitrogen) are not allowed to return to solution, bubbles form in the body that can do mechanical and chemical damage. Many Urak Lawoi' suffered this sickness from ascending rapidly to the surface from the deep ocean floor.

48. Letter from the Fishery Office to the governor of Satun province, July 1994.



Photo 44: Drive-in net fisherman chasing fish from the reefs
(Courtesy Brendan Carroll)



Photo 46: Uan kaew



Photo 45: Drive-in net fisherman wrapping up nets
(Courtesy Brendan Carroll)

Drive-in net fishing was banned by the Department of Fishery in 1997, as it was considered destructive to coral reefs. Although *uan lorm hin* was never completely discontinued in the Adang Archipelago, it was practiced mainly in the monsoon season, when enforcement personnel and visitors are few. It was not until the dry season of 2004-2005 that *uan lorm hin* started to be taken up again in the Adang Archipelago, a reflection of the added survival pressures on the Urak Lawoi' following the Indian Ocean tsunami. Fish targeted by *uan lorm hin* are fusilier, tilefish, and spinefeet, but the harvest has lately become indiscriminate. Catch that is low in economic value or small in size is sold as trash fish.

Another type of net fishing called *uan keaw* is employed by a few fishermen at night during the neap tide, usually between the seventh and twelfth nights of the waxing and waning moons, when the water is calm and tide changes are small. The targets are pelagic fish including *pla see siad*, trevally, dophinfish, and barred king mackerel.

A 60-Year-Old Urak Lawoi' Recalls His Years in Dynamite Fishing

“I worked with several taukay in Satun and Phuket. I went to Koh Similan, Ko Surin, and Ko Racha to do dynamite fishing. We could not do dynamite fishing in this area (the Adang Archipelago) because the water police would arrest us.

The boat we used was as big as today's trawlers. A small rowboat was tied or transported on the big boat to look for fish and place the dynamite. On the rowboat were three people. The first one rowed, the second one looked for fish, and the last one scooped water out of the boat and dropped the dynamite. The explosive was packed in a plastic or earthen container of 5-, 10-, or up to 30-liter size. In the container were urea fertilizer, dynamite powder, and stones to make it sink. When the container was dropped in the water, we had to back out in time; otherwise the boat might be destroyed. When the people on the big boat heard the explosion, they would come to collect the fish. The rowboat would leave to look for more fish at another place.

We dove deep and stayed a long time collecting fish. Sometimes there were many sharks around because they smelled blood from the blasted fish. One time I came back on board and felt strange. I could not urinate and could not get up. People said I had nam beep (a local term for decompression sickness). People gave me a massage and I could not walk well for many weeks. I still went on the small boat to place the dynamite. People would help lift me into the small boat, because I was one of the best at blasting. When I could walk again, I went back to diving. Then I got nam beep again. This time it did not go away. I was not able to walk again and my children started to take care of me. Today I can walk slowly with a stick.

“Why Do You Still Fish This Way?”

The author accompanied two senior fishermen, Pee and Gla, on one of their uan keaw net fishing trips. The boat left in the late afternoon and returned the next morning.

The fishermen used a net 300 meters long, 3 meters wide, with diagonal mesh of about 8 centimeters. After we laid this net in the sea, the fishermen motored to a stunningly beautiful bay to wait and have dinner. A little rice liquor was poured into the sea to pay respect to the spirits of the place and the ancestors. The sun was setting. The breeze was light and refreshing. We had a delicious meal prepared by Pee's wife, with Gla's salted fish. The fishermen told stories from the old days and laughed as they recalled funny incidents from the past. The sea was calm and they seemed fully at home.

At one point, Pee asked whether I remembered asking him, “Why do you still fish this way?” He said, “Now do you know why?” I understood then that even though this method does not yield the most fish, and can be practiced only during the neap tide, it gives fishermen a chance to enjoy the moment when day turns to night, and night to day, and to spend the night in their boat at sea. The fishing trip offers them things that are not less valuable than the fish they catch.

VI. Beliefs, ceremonies, arts, and crafts

Strong belief in, and respect for, the spirits of ancestors and guardians of a place.

If asked about their religion, the Urak Lawoi' commonly say they are Buddhist, like the majority of Thais. But there are no religious institutions in the archipelago and few signs of formal practice. Aside from a Buddha statue at the school and a deserted Buddha grotto on the northeastern point of Lipe, there is no temple or monk on the island. The Urak Lawoi' leader To Kiri encouraged Islamic beliefs, and some of the older men still have a Muslim name. But the majority of Urak Lawoi' believe in animism and practice shamanism. They pay respect to their ancestral spirits, associate guardian spirits with places or natural phenomena such as water or sea animals, and believe in the supernatural.

A. Animism

Traditions demonstrate Urak Lawoi' animistic beliefs, such as the practice among some fishermen of offering areca nuts, betel leaves, popped rice, and tobacco to the guardian spirits of a place to ask for blessings on their catch. House building offers another example. Before construction is begun, offerings of betel, areca, and tobacco are made to ask permission from the spirits of the place. An auspicious occasion is sought to begin building, traditionally on a waxing moon. It is also believed that the front of the house should face east, to help the family live happily and earn its livelihood easily. Completion of the house calls for a housewarming ceremony where betel leaves, areca nuts, sweets, yellow sticky rice, and chicken curry are offered so the spirit of the place will reside peacefully in the house. In similar fashion, when a boat is finished, a launching ceremony is held, and offerings of yellow sticky rice, chicken curry, and fragrant body powder are made to *poya tuhad* (or *mae ya nang* in Thai), a spirit believed by Thai fishermen to protect them and their boats at sea.



Photo 47: Ancestor shrine



Photo 48: Urak Lawoi' graveyard



Photo 49: A cloth tied to the bow to pay respect to *mae ya nang*



Photo 50: Offering to the spirits

*When the tide rises,
it is the right time for an
Urak Lawoi' baby to be born.*

Black magic and witchcraft are feared. In the past, some men wore a talisman, usually white cotton thread from a spool blessed by a shaman, to ward off bad spirits and misfortune. The object was tied around the upper arm, a wrist, neck, or waist. The Urak Lawoi' often blame supernatural powers and ghosts for illness and accidents, and ailments are often treated by a shaman or medicine man using herbs or witchcraft. The Urak Lawoi' also believe in philtering, using love potion from the tears of dugongs.

Births are assisted by a midwife. If a delivery is difficult, she performs a ceremony asking for the spirits' blessing. Three bites of areca and betel and a tobacco roll are prepared. The first bite and the tobacco are offered to the spirits; the second bite taken by the pregnant woman, and the last chewed by the midwife and then applied to the pregnant stomach. If the baby does not emerge, the midwife waits for the rising tide, which is believed to help push the baby into the world. Once the baby is born, the umbilical cord is buried in the sand under the



Photo 51: Asking permission from spirits to fell and move a tree for the major pole in *plajak* festival.

mother's house, and wood is burned on the sand for three to seven days. This is believed to give the mother heat to restore her health. Bad spirits are warded off by placing thorny woods such as pandanus around or in the fire.

Many Urak Lawoi' are superstitious. They believe that passing wind or sneezing will bring back luck to someone going out to sea. A person sitting on the house steps when someone leaves to go fishing could jinx the catch. Failing to keep quiet when seeing a shooting star could bring harm or bad luck. Babies who closely resemble the same-sex parent are often raised by other relatives out of a belief that the child will otherwise suffer in the future.

B. Ceremonies

Urak Lawoi' ceremonies traditionally focus on the abundance of sea life and overcoming misfortune. To Kiri led two main ceremonies no



Photo 52: Paying respect to ancestors on *plajak*

longer practiced today, *puya penyu* (“worship of turtles”) and *puya lawoi’* (“worship of the sea”). The former was performed on the full moon night of the fifth and eleventh months of the lunar calendar to increase the number of turtles and their eggs. *Puya lawoi’* was performed on the full moon day of the eleventh lunar month on Adang island to invite sea animals used for food to come near shore to spawn. Both ceremonies involved wax candles, flags, popped rice, yellow and white sticky rice, areca nuts and betel leaves. A turmeric turtle dish was additionally used in *puya penyu*, while chicken, seven-color rice, dessert, and benzoin were used in *puya lawoi*.

Ceremonies that focused on ridding the community of bad luck were *tula bala*, *bua gro*, and *plajak* (*loi rua* in Thai). The first was performed when many people fell ill. An old *to mor* would launch a boat made of banana wood to carry away bad luck. In *bua gro*, a *to mor*

would chase away individual illness or bad luck. A person would bathe and put offerings in the sea -- sweets, incense, areca nuts, betel leaves, and a kind of trident-shaped branch in three colors with flags attached to each branch -- as well as symbolic leavings to be washed away, such as nails, hair, and used clothes.

The *plajak* festival was the most important traditional ceremony of the Urak Lawoi’, and the modified version remains so today. It is believed to have originated on Lanta island,⁴⁹ although this is not certain. The festival takes place twice a year for three days and nights, on the full moon of the fifth and eleventh lunar months. The Urak Lawoi’ pay respect to their ancestors and symbolically float away misfortune on a miniature ceremonial boat constructed for this purpose of the soft wood of the zalacca palm (*Salacca wallichiana*) and blackboard tree (*Alstonia scholaris*). It is believed that the boat will float back to their ancestral home at Gunung Jerai.

“The sea is not only the source of food, but also a place to discard misfortune.”



Photo 53: Constructing the ceremonial boat

49. Ukrit 1989: 110

C. Arts, crafts, music, and dance

Urak Lawoi' traditional handicrafts were related to objects used in daily life, such as boats, pandanus mats, rattan and bamboo baskets and fish traps, thatched roofs and house walls, and wooden toys. These crafts have become rare and hard to find now that so many items are easily purchased instead.

“*Rammana is never rehearsed, only performed.*”

The Urak Lawoi' have also practiced a number of dance types, all of them introduced from outside the community. The most important today are *rammana* and *rong ngeng*, of Malay origin and also possibly bearing Western European influence from the colonial era. In *rammana*, the rhythm and singing are provided by men, and both men and women dance. The main instrument is the single-sided *rammana* drum. These were originally made of wood from the jackfruit tree, which is hard and resonates loudly, with skins made of monitor



Photo 54: *Rammana* drums



Photo 55: *Rammana* performance

lizard or cow leather. Locally, singing is in the call-and-response style, in which a lead singer provides a phrase that the rest of the group repeats. Musicians and singers use their creativity and skill to improvise harmonies. *Rammana* songs are never rehearsed, so they cannot be sung by people who do not know them well. Lyrics are Malay mixed with Urak Lawoi', and most people just learn them by rote.

According to local elders, *rammana* is a way to worship the spirits. Traditionally it would be performed for three nights during the full moon. Different houses would take turns hosting the performance and offering food to people who attended. Today *rammana* is usually part of a ceremony to thank the spirits, at a house-warming or at the *plajak* festival. Typically, seven songs are performed. The first three are required as a means to connect with the supernatural. The first song, *long pong*, is about ten minutes long and pays respect to the teachers who passed on knowledge of the *plajak*, the spirits of the place, the natural environment, and to ask for forgiveness for transgressions. It also invites respected ancestors to join the ceremony. The second song supports the first, and the third song expresses a wish for ease and good outcomes. The other songs can be about anything.

In Search of Rammana Lyrics and Meaning

In 2005 I asked the the lead rammana singer to record and document rammana songs. Already in his 70s, he was also the oldest and most important shaman in the village and the only one who knew the entire text of the first song, long pong. Context is very important to the Urak Lawoi' in transmitting knowledge, and the shaman believed that citing or recording the song would take the meaning out of its traditional context. The following is part of our exchange.

Will it be possible for you to share with us the words of the song long pong so that we can write it down with the meaning?

What for?

So that other people can read about it.

Who are other people? Who are you? They are not like me. You are not like me.

They are people who are interested.

Then they can come listen. They can come and learn through the singing.

But they may not understand the meaning.

I cannot tell the meaning.

But we can try to translate and write it down so the young generation can learn too.

I always help them to learn. They can also come and perform to learn.

Can we at least make a recording?

I do not perform for recording or filming. That is not the context for the performance. When you write it down and record it, rammana loses its meaning.

Eventually the shaman allowed me to record the group singing at a plajak festival, but I was not able to transcribe the songs, and he never helped. We agreed that the songs would not stay alive on a piece of paper or recording. Long pong is alive with him, and the only way it will stay alive may be for younger generations of Urak Lawoi' to continue performing it.



Photo 56: *Rong ngeng* dancers



Photo 57 : *Rong ngeng* musician and singer

Rong Ngeng. This performance art form involving live music, dancing, and singing may have originated in the West, from the Portuguese, Spanish, or Dutch colonizers of Indonesia. The *rong ngeng* of the Andaman coast area, including in the Adang Archipelago, was introduced by Malays from Penang island to the Muslim Thai and Urak Lawoi' with its center on Lanta island in Krabi.⁵⁰ It is considered to be an innovation combining both Western and Eastern forms -- Western footsteps with Eastern hand movements. The main musical instruments played include the Asian *rammana* drum and gong, and Western violin. The melodies are partly based on European folk songs, mixed with local songs and Muslim lullabies.⁵¹ The lyrics are Malay and learned by memory. Once a popular folk dance and singing form, today *rong ngeng* is performed only at welcoming ceremonies and other organized events. Traditionally female dancers wear a long-sleeved embroidered shirt and batik sarong; men wear a shirt and sarong. Today only women sing and dance. The first song asks for protection from the spirit of the place, while the rest are about life and sea travel.⁵²

A number of other dance forms are no longer performed. They include:

Silai or **kayok** ("getting away" in Urak Lawoi'). This dance form may have been adapted from *silat*, a martial art/dance form practiced in

Indonesia. *Silai* was used to worship the magic of To Kiri and to thank the spirits for a wish granted. Men dressed in long pants and headbands danced to the music of two-faced drums and bamboo flutes with movements resembling fighting and defending with bare hands. Before the dance began, respect was paid to the teachers.

Nora grabork. This dance form was similar to the *nora* or *marona* dance of South Thailand. Women were the *nora* and men the teasers. Dancers began on their knees in prayer position, with palms together to ask for blessing from the holy spirits. They sang and played two-faced drums, bamboo flutes, and a rhythm tool made of two pieces of split bamboo. Women wore a sarong and long-sleeved shirt with a red or green scarf; men were shirtless and painted their faces black with charcoal. The last *nora* performance was in the 1980s. After that, *rong ngeng* started to gain in popularity.

Rabam urak puteh or **rabam farang.** A dance form similar to *rong ngeng* and introduced from Satun, this appears to have been a version of *rong ngeng* that was borrowed by outsiders and then adopted by the local people. Usually there were three pairs of dancers, often women (as the dance style was considered feminine) wearing long-sleeved shirts and batik. Violin and *rammana* drums were played, and later singing was added.

50. Kongmuenpet et al. 2001: 1, 4.

51. Kongmuenpet et al. 2001: 54.

52. Popular songs include the following: (1) *la gu du wa*, an opening song asking the spirits of the place to protect everybody; (2) *jae mee nung*, to console the broken hearted; (3) *sam pan ga yo*, which describes travel by boat; (4) *lee ngung gang gong*, a tale about people dancing and singing so joyfully while picking watercress that they forget to cook rice; (5) *ta lat tat tat*, about moving the hips to the rhythm of the song; (6) *ta pa e tu* and (7) *e ta sa young*, love songs.

Three Days and Nights of Plajak (Boat Floating) Festival

A plajak festival in 2005 started on the day before the full moon. In the midafternoon, the to mor led people to the shrine of To Kiri to honor their ancestors. Each family brought white and/or yellow sticky rice, three types of dessert, popped rice, areca nuts, betel leaves, and a candle. Descendants of To Kiri brought sticky rice in seven colors (with black, white, and yellow as the indispensable colors), raw and cooked chicken. The food and water were put on shelves in the shrine. The to mor began the ceremony by passing around the shrine three times a small container filled with benzoin burned on charcoal. Its fragrance invites the ancestral and holy spirits to participate.

The to mor lit a candle to open communication with the holy spirits. A member of each house followed by lighting a candle. Holding popped rice in their hands, celebrants made a wish and threw the rice into their candle flames. If rice hit the flame, the wish would come true. The popped rice is a symbol of purity and can be used to absorb bad luck. The to mor also read people's fortunes from the candle drippings. He then put four white flags at each corner of the shrine, and the ceremony ended with the sharing of food offerings. The rammana performance began. Seven songs were performed as people danced around the shrine.

Around the school ground, stalls were set up selling food and drink. A big stage had been set up. For the next three evenings, mostly young villagers performed dances to Thai, English, and Indian musical accompaniment. During the plajak festival, people take a break from work and consume much food and alcohol, especially the rice liquor lao kao. The dancing continues for three days and nights. It functions as a way to please the ancestors and connect with the supernatural, to give people an opportunity to fully relax, to unite the community and reduce conflicts, and to conserve the culture.⁵³

On the second day, the people of Lipe searched for a tall tree to be used as a ceremonial pole, and a blackboard tree to be made into the frame of the ceremonial boat. Before any cutting, the to mor used ganaruzza leaves to brush a mixture of water, pounded rice, and turmeric onto the tree to ask the spirits for permission to cut it down for wood. The pole was then decorated and erected on the beach where the ceremonial boat would enter the sea. Early in the morning, a long-tailed boat carrying men and women from Lipe traveled to the forest on northeast Adang to collect wood from the zalacca palm for the ceremonial boat. People wore costumes, some dressed as "jungle" people. Some painted their faces black and had sewn leaves into a shirt or skirt to wear over their normal clothing. Others made flower garlands for their neck, head, wrist, or ankles. By midmorning, the peeled zalacca wood was ready to bring back to Lipe. On the journey the people sang and danced. Buckets were used as drums. Across the channel from Lipe, another boat was waiting, carrying younger men and women dressed up, singing and dancing. As the boats neared, a chase began, and the two boats crossed in front of the island three times. If the chase boat catches up to the other, the community will have good luck. Then the zalacca wood was unloaded and carried around the stage three times before the to mor began the boat-building ceremony.



Photo 58: Peeled zalacca palm for ceremonial boat

53. Ukrit 1989: 168-175.



Photo 59: Boat chase



Photo 60: Carved wooden paddlers and spear



Photo 61: Completed ceremonial boat

In the late morning, a small group of people, including boat builders from the village, started on the ceremonial boat, called *prahu gumo* in *Urak Lawoi*. The miniature boat had three rooms: a front room was for the crew, a middle room for storage and kitchen, and the last room for the captain, a carved wooden figure that stood at the back. On the bow was a figure of a man holding a spear pointed at a turtle. This animal is an important supernatural symbol to the *Urak Lawoi*⁵⁴ and also represents animals they have eaten; *plajak* serves to return the animals to their original owner and expiate the sin of capturing and eating them. Small wooden figures were carved to represent community members who would carry away bad luck. At the end of the boat was a rudder, and in the middle were seven sets of paddles. Other carved wood objects on the boat included spear, paddles, and a flag. Two sails were made of white cloth, and metal nails were used in construction. A few people worked on decorative additions, attached with small bamboo nails.

Completed in the late afternoon, the boat measured about 3 meters long by nearly a meter wide. It was placed on the beach next to the ceremonial pole, with the bow facing the ocean, ready to be launched. In the early evening, *rammana* performers gathered near the boat and played and sang through the night, until the morning launch. Villagers brought sweets, dried foods, and water to place in the boat as offerings to the ancestors for the journey. They added cut nails and hair to represent bad traits or luck that would depart with the boat. Lighted candles were placed inside, along with handfuls of popped rice that people waved over their bodies to absorb bad luck.

The next day before dawn, the *to mor* prayed that all bad luck would be carried away with the boat. A small group of men lifted the ceremonial object into a long-tailed boat that would take it to a spot where the current would carry it away. The people gave the boat a last look and turned around without looking back. After the launch, a small group of men made seven wooden crosses from peeled wood.⁵⁵ Shredded papyrus leaves and flowers decorated the top and arms of the cross, representing hands that would block or chase misfortune from the community. In the late morning, a group of men and women carried the crosses to the beach, led by others playing drums and violin and singing. The crosses were erected in a row next to the ceremonial pole to keep evil and misfortune carried away by the boat from returning to land.

That evening, buckets of water were placed at the foot of the crosses. The *to mor* dripped candle wax into the buckets and read the community's fortune from the wax shapes. By the next morning, the water would be holy and could be used to wash away bad luck and poor health. Rice mixed with saffron was brought to the *to mor* to be blessed, and then scattered around people's homes to chase away misfortune. The crosses were moved to different beaches around *Lipe* to keep away bad luck.

The festival ended on the fourth morning. Formerly the *plajak* was followed by three to seven days off work, though not anymore. It has, however, become a popular time for marriages, which can extend the holiday.



Photo 62: 'Ghost-preventing poles'

54. Ukrit 1989:61

55. Some participants said the number represents the days of the week, others that it is for the seven siblings of the *Urak Lawoi*' ancestors

VII. Joining the global economy

*“More should come so that our island will become progressive”
(standard Urak Lawoi’ view of tourists).*

Participation in the market economy has transformed the Urak Lawoi’ relationship to coastal and marine life, so central to their culture. Resources are now used in ways that conform to the needs of the marketplace. The value of broad, detailed knowledge about every corner of the archipelago has given way to a narrow focus on the needs and interests of commercial fishing and tourism, determined by offshore markets and international events. Harvesting of non-fish species has nearly disappeared because of harvesting bans and a concentration on commercially valuable fish. Meanwhile, the availability of cash income, greater access to industrial commodities, and entry into a technological society has rearranged Urak Lawoi’ family roles and social relationships.

A. Tourism development

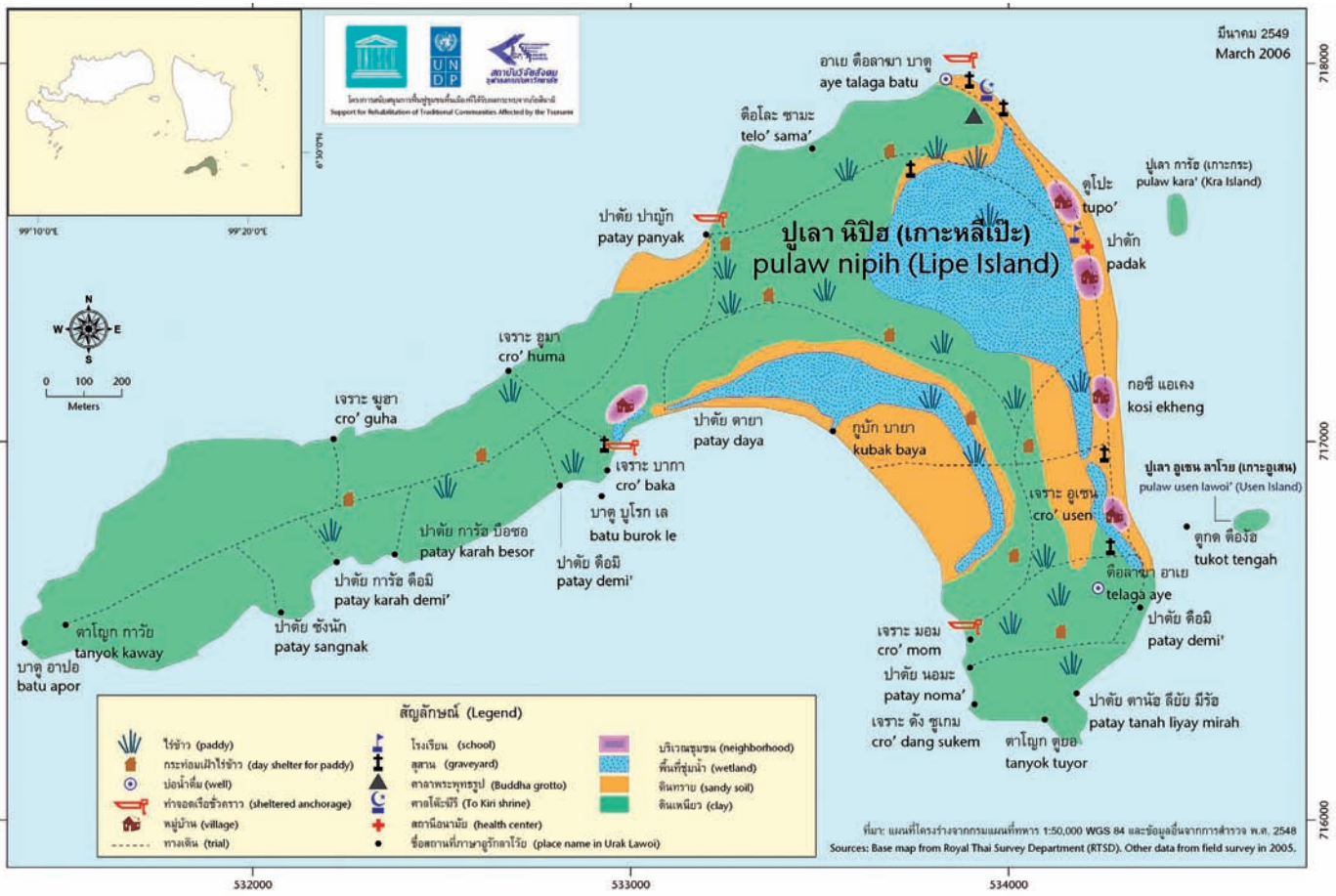
While the Urak Lawoi’ economy remains heavily dependent on fishing, especially during the monsoon season, tourism has become the next most important occupation and the primary source of cash in the dry season. Tourists began arriving in the Adang Archipelago with the establishment of Tarutao National Park, but development was slow and small-scale for the first 20 years; park administration did not begin in earnest in the Adang Archipelago until the 1980s. The first resort was opened in 1984 by the family of the village headman; it had a row of seven houses and a shared bathroom. The same year, tour

agencies in Satun province hired a boat to run from Port Jepilung to Lipe. During the 1980s, passenger boats to Lipe ran three times a week, and Western tourists began arriving. Unlike Thai visitors, who travel on large group tours for short periods during holidays, Westerners tend to be independent travelers who want to experience the outdoor environment of the archipelago and stay longer, an average of 10 days.⁵⁶

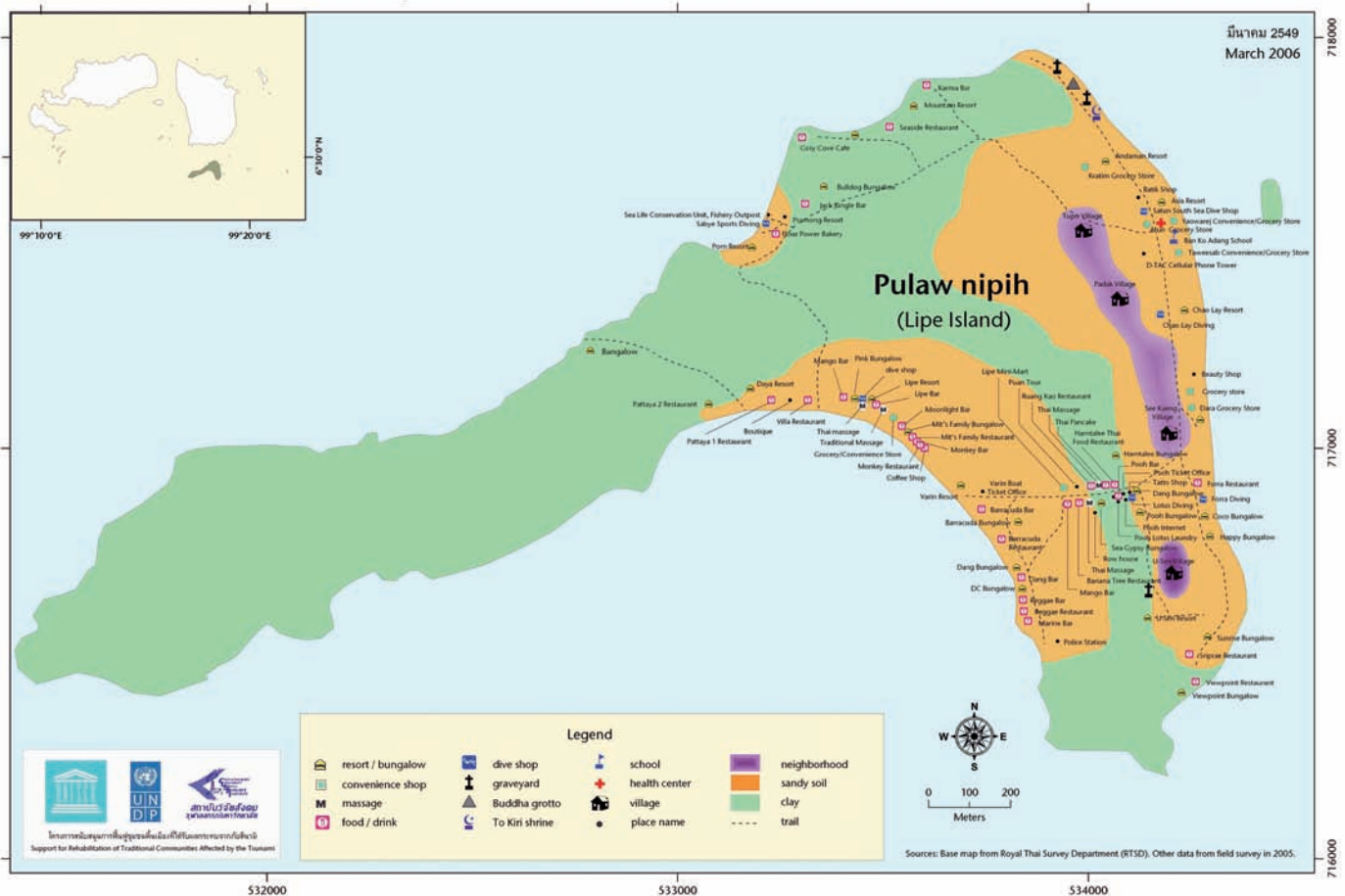
“From fishermen to tourist taxi boat drivers, from gatherers to service people.”

According to the records of that first resort on Lipe, average visitor counts between 1982 and 1991 were 3,260 Thais and 184 foreigners per year. Today there may be more than 1,000 visitors per day on average, most of them from Europe and North America. Visitor interest has grown rapidly in the Adang Archipelago as one of the last relatively undeveloped island destinations in Thailand. Today there is ferry service to Lipe at least twice a day. Tourist resorts have grown from five in 1997 to 23 in 2005, and bungalows from 153 to 496. The tourism sector has at least 75 employees and 11 Urak Lawoi’ families, compared with 45 people and one family in 1998. Tourism has been in an unprecedented boom since 1998, despite the many factors limiting large-scale development:

⁵⁶. UNESCO and NOAA 2005: 66.



Map 8: Lipe Island before 1980 with Urak Lawoi' place names



Map 9: Lipe Island in 2005 with Urak Lawoi' place names (enlargement on page 86)



Photo 63: Taxi boat



Photo 64: Trawlers



Photo 65: Light-luring boats

national park status, limited infrastructure, fresh water, land, and annual monsoons.

The livelihood offered by tourism has introduced a number of changes to the Urak Lawoi's traditional way of life. Local people who used to fish and gather sea life now work in hospitality and service jobs, especially the younger generation. They need cash to buy consumer goods, which are readily acquired on the mainland and imported by local retailers. At least half of the Urak Lawoi' work force in tourism consists of unmarried teens, childless or older women who work as maids, waitresses, and cooks at resorts and restaurants; this is one of the few options remaining to these groups to earn income and contribute to a family's survival. Men are hired to construct and maintain bungalows and drive taxi boats for daily excursions, snorkeling and diving trips.

Tourism is seasonal work, and the industry has proved volatile and unpredictable. Although the tourist season lasts only about five months, income is relatively high compared with what can be earned from fishing, and the Urak Lawoi' have come to depend on cash to buy the things they need. After visitors dropped off sharply with the violent civil unrest in south Thailand starting in the spring of 2004, and the Indian Ocean tsunami the following December, people who depend on tourism in the dry season were left with little income in 2004-5. It is because of such economic pressures that the Urak Lawoi' returned to drive-in net fishing and harvesting sea life to sell at market. *Bagad* was even revived in 2005 to gather sea cucumber, which commands a high price at market. The situation has been so dire that park officials have eased up on regulations, and the provincial government has fully supported the recovery of

tourism in the area. Such development pressures on the Adang Archipelago illustrate clearly the national dilemma of choosing between the economic benefits of tourism and the need to protect the cultural and environmental heritage that gives national parks their appeal.

B. Competition for resources

The Adang Archipelago is no longer isolated, and pressure on its resources now includes commercial fishermen, tourism entrepreneurs, visitors, and the national park. The Urak Lawoi' themselves have grown from a population of 387 in 1974 to 880 (155 households) in 2004.

and many mention problems with competition, particularly against large-scale commercial boats. In the king mackerel season, for example, when the Urak Lawoi' go hook-and-line fishing, it is only a day or two before large commercial fishing boats arrive and quickly deplete the schools of fish. Responding to a 2004-5 survey,⁵⁷ more than 80 percent of Urak Lawoi' households said large-scale commercial fishing boats were the most serious coastal management problem, and the greatest threat to the health of coastal and marine resources -- even more so than natural disasters. The impact of commercial fishing has become increasingly obvious to local residents, as it is now rare to find the larger fish that used to be plentiful.

“*They suck everything, even the sea worms*”
(Urak Lawoi' fisherman describing how light-luring commercial fishing boats attract sea life).

Large commercial fishing boats began arriving in the Adang Archipelago as far back as the 1950s and '60s, to fish with long lines or dynamite. Today, even under its current status as protected parkland, the archipelago sees many trawlers, purse seines, and squid castnets from around Thailand. Some large-scale commercial fishing boats come equipped with high-tech capital-intensive equipment such as radar and sounders to detect schools of fish on the sea floor. Many squid castnet vessels carry strong lamps on board. Working together with purse seines, light-luring boats use electric generators to cast bright light (50 to 60 kilowatts per boat) that attracts squid and pelagic fish at night. These vessels can be seen lighting up the horizon on moonless nights.

Traditional fishing practices such as trap and hook-and-line cannot compete with modern high-tech boats that often fish near shore. More than 80 percent of Urak Lawoi' head of households still earn their living mainly by fishing,

Coral reefs damaged by traps and net fishing were also mentioned as important impacts. As much as 43 percent of the Urak Lawoi' surveyed described the current condition of the fish resource as “very bad.”

Many non-fish species also have grown scarce. According to people who collect the sea cucumber *pling kamad*, which used to be abundant, only a few can be found at a time anymore around Lipe. An elder Urak Lawoi' man who has collected sea cucumber all his life said a big boat carrying 12 people was once too small to hold the *pling nom* (*Holothuria fuscogilva* or *Actinopyga lecanora*) collected in one day for dry meat. Now it takes a month to fill three to four sacks. The presence of large commercial fishing boats also has led to a drastic decline in turtles, which get caught or killed in fishing nets. It was once possible to catch a turtle every day or two, but now a full-time fisherman may spot one or two a month if he is lucky.

57. UNESCO and NOAA 2005: 45.

C. Loss of land rights

Competition with tourism also is felt keenly in the demand for land, especially on the beachfronts where the Urak Lawoi' traditionally built their homes. Land in their communities had long been held in common, and everyone had access to resources needed for subsistence. The islands and sea had no market value and were not conceived of as property. With the new concept of state-owned land, however, conflicts have been inevitable. Park officials strongly discouraged Urak Lawoi' from their nomadic foraging and campsites scattered across the archipelago, forcing them to abandon their central tradition of *bagad* and become fully sedentary in a place where they had roamed freely for generations.

Yet, it was not possible to implement the policy of moving people out of parkland, because the residents of Lipe had land rights dating from the 1950s – although these were largely self-reported and did not always include a valid deed or title. Park management also saw problems with trying to relocate more than 300 semi-nomadic people to the Thai mainland. It was hoped instead that the Urak Lawoi' would become an asset to the park as tourism grew, providing visitor services, labor, and cultural interest.⁵⁸ They were allowed to stay or settle on Lipe – an island that was considered environmentally degraded already – subject to park rules and regulations. Seeing the advantages to living in a larger community near the school and health care, the Urak Lawoi' from Rawi and Adang islands (except those living at Telo' Cengan and Telo' Puya'; see page 54) agreed to move to Lipe.



Photo 66: Telo' Cengan on Adang

58. Mahidol University 1974: 5,16, 97-98, 101.



Photo 67: Beachfront popular for tourist bungalows

The Urak Lawoi's history of land rights and ownership has been marked by ambiguity, confusion, and conflict that continues today. In the 1970s and '80s, land speculators and investors started buying land on Lipe from residents who were told it would be taken by the national park anyway for far less compensation. Some villagers sold land to which they did not have a valid title. Sometimes the same piece of land was sold more than once. Some people were promised by speculators or village leaders that they could continue living as they had; others deposited their land title with leaders and never knew it was later sold or seized. Being illiterate and ignorant of state laws, many Urak Lawoi' lost rights to the land they had inhabited and cultivated. According to the Satun Land Office, of the 2,400 *rai* of land on Lipe in 1998, private land holdings with legal documentation comprised 934 *rai* (39 percent), some of which had been issued after the establishment of the park. Except for the family of the former village headman and a few others, it still is not clear who owns parcels.

Today, more than 90 percent of the Urak Lawoi' have no title to land. As local land owners and outsiders alike invest in tourist resorts, Urak Lawoi' without title have migrated inland, beyond sight of the ocean. Lipe has become crowded with houses and resort bungalows; Daya Beach on the south side, which was

More than 90 percent of Urak Lawoi' on Lipe have no land title.

relatively empty a few years ago, is now dotted with bungalows, restaurants, bars, and shops. The Urak Lawoi' are increasingly interested in getting back lost land rights so they too can build resorts. Land conflicts have been in the courts since 1998, not only between Urak Lawoi' and land speculators, but also with the national park. Many such disputes remain unresolved, and Thailand's Commission on Human Rights has been involved in trying to clarify the issue of illegal ownership.

D. Parkland and conservation

The Urak Lawoi' also have felt threats to their way of life from the national park, despite the compromises made by park management to allow them a means of livelihood. The park does not exploit resources as other users do, but its rules and regulations do pose restrictions on traditional use of resources. Conflict with the park began with the forced relocation to Lipe in the 1980s, and intensified when park officials



Photo 68: Daya beach before the tourism boom

Telo' Cengan and Telo' Puya'

About 100 people (17 households) living on Telo' Cengan and Telo' Puya' on the northeast side of Adang island are the only Urak Lawoi' who live outside Lipe today. When the national park was established, these residents refused to leave their well-cultivated lands for Lipe, where they would have to share resources, or to start over in a designated area of the mainland. The park finally allowed them to remain on Telo' Cengan and Telo' Puya' as long as no new houses were built. In May 1998, I interviewed the well-respected local leader who had motivated the others to remain on Adang by his steadfast refusal to leave. Following is an excerpt.

Please tell me about your family.

I was born in Lipe. My mother was the daughter of To Kiri and his first wife. I moved to Adang over 30 years ago. One of my children is a to mor.

What do you do now?

I am not doing much anymore. In the old days I used to do all kinds of fishing. I got a lot of fish from hook-and-line right in front of the island. I worked with taukay in Perlis, Malaysia. I made big traps and caught big fish. I used to do dynamite fishing in Ranong, Burma, and India. I was arrested and imprisoned for one year in India. I used to use a Malaysian taukay's boat. After the boat broke, I bought my own from the money I saved from working. Now I've sold it to my son-in-law.

Do you consider yourself a leader?

People here did not know much, and were afraid of outsiders. I was not afraid. I do not think people need to work for local taukay, because taukay give low price for their fish, and we can deliver by ourselves. Because I did not work with a taukay on Lipe, some people think I myself was a taukay.

Why did you and your family not move away, like other villagers on Adang and Rawi?

We lived here before the park came. Before coming here, I used to live on Lipe. My parents did not declare their land rights, and so did not have any official land title on Lipe. We would have had to live on other people's land. My wife did not like to live in a crowded place. When I had a conflict on Lipe with an outside taukay who was influential, kamnan (sub-district chief administrator) Jong asked me to move away. I decided to move to Adang, where my parents had settled. The trees and plants my family grew were already big enough to be harvested. We have fruit trees, coconut trees, root plants, lemongrass, chili peppers, many others. We could eat them. In difficult times we used them to trade for other things. There were about seven or eight houses on Telo' Cengan back then. Park officials wanted us to move to Amphoe Kuankalong on the mainland in Satun, but I refused. If they wanted us to live there, they should first cultivate the land so that we would have the same things there.

Urak Lawoi' Land Owner Arrested for Encroachment

In the mid-1990s, a few Urak Lawoi' families started to build simple tourist bungalows in areas they claimed had belonged to their grandparents. The family of Un, a man in his early 60s, and his relative So, in his 40s, built a small tourist resort with nine bungalows on a hillside claimed also by the park. Despite several warnings about encroachment, Un added a few more bungalows each year. Three years after opening their resort, he and his partner were arrested in 1998 by Satun policemen assisted by officials from the Satun Forestry Department and Tarutao National Park. They were charged with encroaching on parkland and held at the police station in Satun.

The next morning, when he heard about his father's arrest, Un's son Pa felt compelled to head immediately for the police station in Satun, even though he had no idea where it was or what he would do there. He eventually paid bail and returned to Lipe with his father. Un had a court date the following week. When I saw them, Un was uncharacteristically silent, although he claimed he was okay. Pa said that when he had seen his father handcuffed to his partner, Pa's limping uncle, he said to the police that it was too much, they need not fear the prisoners' escape as they had nowhere but the island to return. The officers removed the handcuffs. Pa recalled feeling afraid when he talked to the official, realizing his lack of position and education. He had always wanted to study, but as the first son he had followed his father's wishes and left school after the fourth grade to become a boat captain.

Pa told me that he had gone to the land office in Satun earlier, after repeated warnings by park officials about encroachment. He did not understand why his family's name was not listed with others at the land office as landowners, despite the fact that his grandparents had occupied and cultivated the hillside. He said he was not sure what he would do if the family were not allowed to run their resort. They had practiced dynamite fishing until it was banned. He remembered when he was 10 years old and went with his father to recover traps, park officials had arrested them for dynamite fishing, and he saw his father mistreated by a park official. The officials did not press charges, but he remembered shaking from fear and anger the whole time. Then he switched to drive-in net fishing, and that too was banned. Pa had believed his family could make a living from running the resort and not have to fish anymore. But now it was not clear what they would do to survive. Meanwhile, additional construction on their bungalows was pending. Pa vowed to fight a legal battle to find out once and for all what really belonged to the family.

When I returned to Lipe in 2003, the resort not only remained, it had expanded. Some of the bungalows were now built of more permanent materials, such as concrete and tile. The family also had built houses. Pa told me that the court had finally ruled after a few years that his family were legal owners of the land. But they had spent more than a million baht for all the legal expenses to prove it. Their story serves as an example to many Urak Lawoi' hoping to win official land rights through legal means.

“No depletion, no need for conservation.”

prohibited *bagad* out of a belief that it was inappropriate to roam around taking natural resources in a park. Confrontation grew violent with the crackdown on dynamite fishing, as the Urak Lawoi' felt pressured to give up their remaining means of survival. Some residents agree that park status has helped limit exploitation of resources by outsiders, and that the ban on dynamite fishing has allowed fish populations to recover. But many comply only partially with limits set by the park. Given lax enforcement of harvesting limits, a market economy has flourished in the region as outsiders, who hire the Urak Lawoi' as their laborers, profit from the situation.

For their part, the Urak Lawoi' traditionally had no concept of conservation, nor saw any need for it. Their practices included no fishing taboos,⁵⁹ sea tenure, or other deliberate forms of conservation, as there was no need to sacrifice short-term interest in favor of long-term preservation. Coastal and marine resources were plentiful in the relatively isolated archipelago, and the Urak Lawoi' had exclusive use of them. Their nomadic foraging techniques kept them from depending on any one resource or area of the archipelago. They did occasionally suffer scarcities of their staple food, rice, when monsoon weather prevented travel, but the monsoon season is also rich in local foods near shore. As a consequence, many Urak Lawoi' refuse to believe that marine and coastal resources can be depleted for good. In their words: “No depletion; no need for conservation.”

Concepts related to conservation seem to have been introduced by government officials when the park was established, and more recently by visitors who come to the archipelago expecting a pristine environment. Environmental conservation has become a more or less familiar idea among the younger generation, but practicing it seems to arise out of individual concern rather than any kind of custom. No particular emphasis is placed on the importance of biodiversity or ecological relationships. The only animal widely recognized as needing conservation now is turtles, whose numbers are diminishing rapidly; in the 1950s they were so plentiful that a visiting school official had reported that the sound of turtles moving and laying eggs had kept him from being able to sleep in his tent on Adang.⁶⁰ Coral reefs, one of the scientific treasures of the Adang Archipelago and an important breeding ground for Andaman Sea life, are for the Urak Lawoi' a common feature of the local environment that does not merit attention or concern – at least, before the influx of tourists. Residents used the term “so-so” to describe their feelings for coral reefs.⁶¹ Some said it would be no big deal if the reefs were gone and only sand bottom remained. While some younger people will say coral reefs are important habitats for fish and are



Photo 69: Giant clams

59. The only prohibition was on dolphin, which is believed to jinx hook-and-line fishing.

60. Chaisak, personal communication 1997.

61. Wongbusarakum 2002: 95

slow to grow back, others refuse to believe it. The only widely understood value of reefs is that they attract visitors. The Urak Lawoi' themselves have little aesthetic appreciation of corals or shells, and do not collect them for decoration.

In 1998 the first motorcycle was introduced to Lipe. Now there are more 50, despite the lack of a paved road.

E. Material culture

Boats were once the most essential, most prized Urak Lawoi' possession. Men spent a lot of their time building and working on and in their boats. With the gradual industrialization of the fishery, most Urak Lawoi' have started to work for *taukay* on boats equipped with powerful imported engines and compressors. Few men work in boat building today, as most boats are ordered and made elsewhere – although, with the recent increase in cash wealth, some Urak Lawoi' have been able to buy their own boats again.

Similarly, greater access to cash and commercial products has cut into home production of all kinds of goods that once were made from local resources. People are buying instead of making what they need. Urak Lawoi' with good earning ability tend to accumulate possessions, buy a house on the mainland, and send their children to school there. Much of the Urak Lawoi' diet is also made up of introduced foods, as meat, vegetables, and fruits are easily transported from the mainland by long-tailed



Photo 70: Urak Lawoi' boat builder



Photo 71: Modern house
(Courtesy Soimart Rungmanee)

boat and ferry. It has become common for Urak Lawoi' children to get packaged snacks from local shops. Gas stoves are replacing charcoal fires for cooking, and homes are constructed of such durable materials as concrete, tile, wooden planks, and corrugated metal. Households share electricity generators. Lipe has roads and water piped in from Adang, and cellular phone service. Consumer goods such as motorcycles, television sets, stereos, DVD players, and mobile phones are becoming more common and desired, especially by the young.

People who fail to integrate in the modern economy, meanwhile, are becoming increasingly marginalized. Growing income gaps are eroding traditional assistance networks, as nearly everything of value is translated into money. The Urak Lawoi', once known as people who could not be coerced by money, are transforming into people who believe in its necessity. Unfortunately, concepts related to managing money lag far behind, and Lipe still has no bank. Additionally, while luxury goods

“Even if I have to die at sea, it will be all right as long as my children can study”.
(Urak Lawoi’ father with two years of schooling, who said he felt uneducated and inferior)

are becoming increasingly available to them, there is a gap in basic services such as health and legal care. The public health station is staffed by one official who offers limited medical care. Residents still depend largely on traditional alternatives such as midwives and medicine men.

F. Changing ways of learning and knowledge

Rapid changes in the Adang Archipelago have completely changed Urak Lawoi’ traditional ways of learning. For generations, children learned what they needed to know as families traveled together during *bagad*, foraged for food, and lived at different sites in the archipelago. Rather than formal or informal lessons, young people observed and put into practice what they saw in the context of daily activity in the local environment. Information was passed on orally – the Urak Lawoi’ language has no written form – and certain types of information resided only with particular members of the community. It was traditionally common to see men over the age of 30 telling stories to a group of two to five children at a time.⁶² Other knowledge and skills, such as diving and navigating the underwater geography, could be acquired only through intense, regular practice.

Urak Lawoi’ indigenous knowledge can be very profound. They developed highly sensitive awareness of tides, currents, lunar cycles, local wind and wave patterns, and seasonal changes that were needed to be successful on foraging

and fishing expeditions. Through observation and practice, they learned the habits of local marine species and how best to use them. Their language has more than 20 names for different types of sea cucumber that can be eaten or used as medicine. They list at least six different kinds of giant clam used as food, although scientists have identified only three types in the area.⁶³ The Urak Lawoi’ name six types of winds in addition to the standard northeast and southwest winds, each with unique characteristics and effects on the sea, travel, and fishing. Knowledge embedded in the practice of certain activities is reinforced in others such as in place names, stories, and songs.

With the loss of *bagad* and their semi-nomadic lifestyle, the Urak Lawoi’ no longer have opportunities for everyone in the family to experience learning at different sites around the archipelago. Elders’ role as the transmitters of local knowledge and traditional skills is fading rapidly as contemporary activities are different.



Photo 72: Urak Lawoi’ father and son
(Courtesy Ralf Obergfell, www.ralfobergfell.com)

62. Anthropology and Sociology Department, Songkla Teacher College, September 1992.

63. Chantrapornsy 1996.

There are new ways of learning and new things to learn, including what one needs to know to get jobs in tourism, such as foreign languages and hospitality. Older members of the community also have far fewer occasions to share what they know, as sites that were frequented on annual foraging trips are not visited anymore; local knowledge is circulating only among people who still travel around the archipelago – namely men employed in fishing or tourism – and the sites they visit are dictated largely by the needs of those industries.

In the past, the Urak Lawoi' way of learning was mainly experiential; there were no formal classrooms or lessons. Although *bagad* was instrumental in these traditional learning processes related to the natural environment, governmental officials prohibited *bagad* because, they said, it hindered children from going to school regularly and receiving a proper education. Formal education under the standard Thai system was introduced with the Ban Ko Adang School founded on Lipe in 1959 for grades 1-4.⁶⁴ For the following two decades, school was seen primarily as a place where children learned to speak, read, and write Thai, so parents saw little need for education beyond the primary level. For boys, schooling only delayed earning money as fishermen, and female household leaders in the Adang Archipelago have considerably more education, on average, than males (4.5 to 2.6 years).⁶⁵ The school was extended to grade 6 in 1978 and to grade 9 in 1997. As an instrument of cultural assimilation,



Photo 73: Urak Lawoi' school students on Lipe (Courtesy Thanit Bootpetcharat)

the school has been the main source of Urak Lawoi' knowledge about the outside world. Formal education also is gaining importance as a way to improve one's situation, as it allows for more job opportunities and participation in modern society. But there is still a big difference between what children learn, or are expected to learn, under the standardized Thai school system and what they experience in daily island life.

Just as important is their exposure to international media, communications, and technology. Urak Lawoi' households today spend their evening hours watching Thai TV series or Western movies on DVD. In the traditional *plajak* festival, young people play and dance to Western, modern Thai, and Indian music played by Urak Lawoi' DJs on big speakers, while elders perform traditional *rammana*.

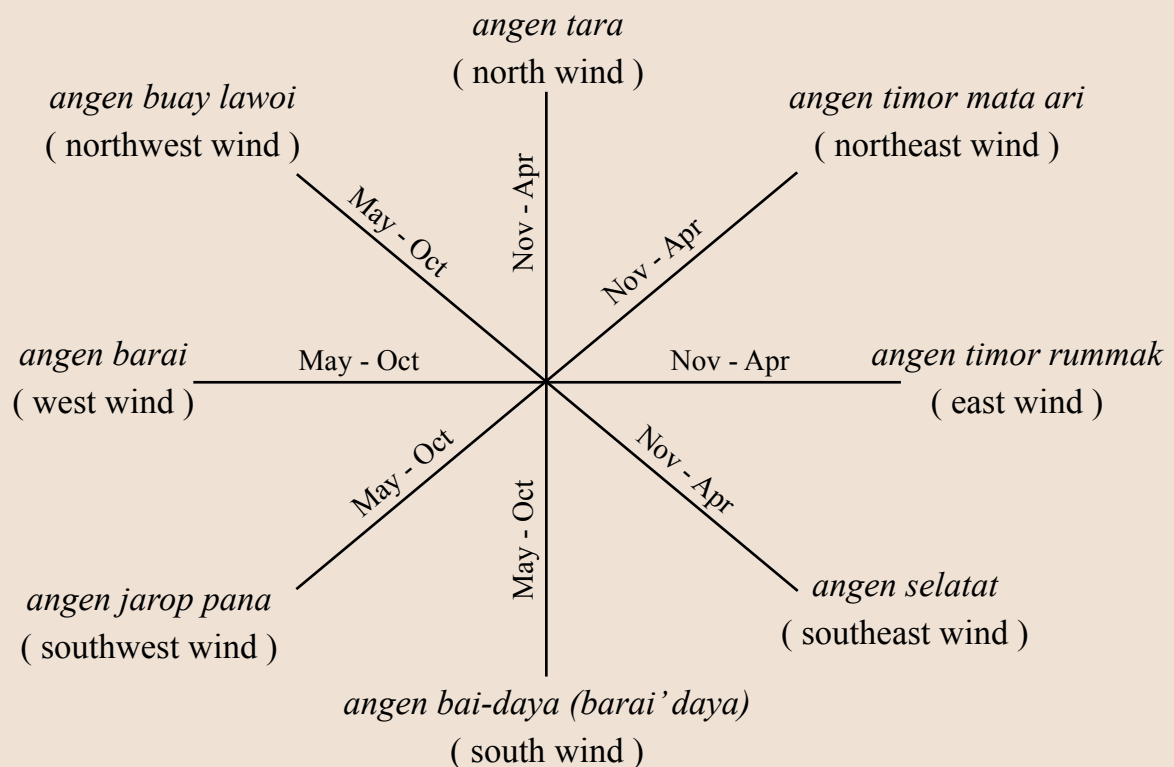
For fishermen, meanwhile, the growing use of technology is making certain traditional skills obsolete. In the past, knowledge related to local resources and skills were crucial to good harvesting and a good standard of life.

64. Chaisak, personal communication 1998. According to the former educational administrator of Satun province, the school was initiated by Praya Samanrataburin (Tongumuhamed), a governor of Satun from 1912 to 1932, who was concerned about the islanders' affiliation to Malaysia and wanted to cement Urak Lawoi' ties to Thailand; the school served as additional support for defining the territory as part of Thailand. Estimates at the time of the school foundation put the population of the archipelago at 50 to 60 Urak Lawoi' households, with nearly 60 children of school age.
65. Wongbusarakum 2002: 80.

Types of Wind

According to Urak Lawoi' Knowledge

For the Urak Lawoi', the Adang Archipelago has two seasons, monsoon and dry, each marked by different sets of winds. At the start of each season, the wind shifts and it rains heavily; waves can be as high as 3 to 4 meters and it is difficult to travel by boat or go fishing. From the end of October to the beginning of November, the dry season starts, and the wind starts to shift direction from west to east and south to north. From the end of April to May, the monsoon season begins, and the wind shifts back toward the west and south. Local people believe that fish do not bite when the sea is cool or murky, but that they will go into traps, which resemble coral reefs where they can stay warm.



Winds during the monsoon season: A good time for trap and hook-and-line fishing.

angen bai-daya (barai' daya): south wind

Strong wind with rain, waves 3 to 4 meters high. Very murky, cool water.

angen jarop pana': southwest wind

Strong wind, waves 2 to 3 meters high with wide intervals. This wind can adversely impact near-shore corals. Slightly warm, murky sea water.

angen barai': west wind

Strong wind with rain, sometimes for a week, waves 4 to 5 meters high with wide intervals. Sometimes the sea is calm. Warm, murky sea water. Poor visibility for traveling. Very good for hook-and-line fishing, especially king mackerel.

angen buay lawoi': northwest wind

Occasional wind, sometimes strong, with waves 2 to 4 meters; at other times light wind with meter-high waves. Big waves with wide intervals. Difficult for sea travel. Sea water is slightly warm and light-orange color.

Winds during the dry season: Good for trap fishing, but not hook-and-line.

angen tara: north wind

Occasional wind, sometimes strong, with waves 2 to 3 meters high; at other times light wind, with meter-high waves. Cool, murky sea water, sometimes slightly orange. Difficult to travel to the mainland.

angen timor mata ari: northeast wind

Strong wind, waves of 2 to 3 meters. Difficult to travel to the mainland.

angen timor rummak: east wind

Strong wind, with waves of 2 to 4 meters. When the wind is blowing hard, the sea is murky, cool, and orange or rust color. When the wind is calm, in February and March, the sea is very clear.

angen selatat: southeast wind

Strong wind, with waves of 2 to 3 meters. When the wind is blowing hard, the sea will be murky, cool, and orange. When the wind is calm, the sea is very clear.

For example, it was necessary for fishermen to acquire deep knowledge of marine life particular to an area, including the nature, habitat, and conditions that would make for a better catch. With increasing access to technology such as scuba gear, hookahs, and spear guns, the Urak Lawoi' are becoming more dependent on tools and techniques, and less on their personal skills and knowledge. Young people start out fishing using modern equipment and methods, and many cannot imagine catching certain species without them.

G. Social dynamics

Technology also has had an impact on the complementary roles of men and women in the Adang Archipelago. Men, who still fish and travel, have seen their traditional roles change far more gradually than women. Now that motorized long-tailed boats make it possible for men to fish anywhere in the archipelago and return home the same day, women are no longer needed to accompany them on extended trips to help fish or collect shell and sea cucumber. With the availability of ice and rapid transport to market, processing of the catch has also become unnecessary. Women, children, and elders concentrate their livelihood activities on the small island of Lipe. They have little exposure to sites around the archipelago or its products anymore except what men bring home for household use. While most boys still have opportunities to accompany their father or older male relatives on fishing trips, girls grow up with few opportunities to travel and learn about their natural environment, as they did in the days of *bagad*. The focus now is on earning a living on Lipe working in tourism. Meanwhile, married women whose husbands earn a good income do not need to work outside. They spend their time tending young children, doing light chores, and playing cards with their friends for hours.

“Playing cards has become a popular way for Urak Lawoi' women to pass the time.”

The Moon and Tides

Urak Lawoi' time is based on the cycle of the moon. One month is composed of two aye (“water”) of 15 days each, covering the waning and waxing of the moon. The lunar cycle directly affects the tides. The three days before and after both the full and new moons are called aye besor (“big water”), the period of spring tides, when changes between high and low tide are greatest. During this time the currents are strong and fishing is difficult. Trap fishermen usually spend these days making traps instead of fishing. From the fourth to sixth days, the tide change decreases and fishing gets easier, although there are still some strong currents. On the seventh, eighth, and ninth days, the tides vary the least; this period called aye mati (“dead/calm water”) is the neap tide. Local fishermen consider this the best period for fishing and gathering. After that, the currents grow strong again. In a 15-day cycle, that adds up to 12 good fishing days. But the full complexity of lunar and tidal rhythms takes years of experience to acquire.



Photo 74: Urak Lawoi' showing a sea urchin to a Westerner (Courtesy Brendan Carroll)



Photo 76: Urak Lawoi' children in the age of globalization (Courtesy Thanit Bootpetcharat)



Photo 75: Bathing before the tap water system was installed (Courtesy Ralf Obergfell www.ralfobergfell.com)

Meanwhile, the sudden increase in visitors to the formerly remote archipelago has brought all of the Urak Lawoi' into close contact with cultures and lifestyles from the developed world. Nearly half of the tourists surveyed in 2005 noted changes to the Urak Lawoi''s traditional way of life as the most significant cultural impact of tourism.⁶⁶ The Urak Lawoi' have contact with visitors from wealthy Western societies at resorts on Lipe, which are located right next to their villages, on the taxi/tour boat, and at the restaurants. Some have developed friendships with, and even married, visiting Westerners.

The Urak Lawoi' language is still spoken at home, and more than half of parents surveyed want their children to go into fishing or tourism and stay on Lipe.⁶⁷ Yet, in many ways, the community is becoming less and less distinct from mainland Thai. The ease of travel, availability of cash, and other forces of globalization have given them – especially the young – aspirations that are not unlike those of urban Thai. The Urak Lawoi' do cling to certain comfortable traditions that might be considered primitive by outsiders. But they have proved very adaptable and willing to change in ways that help them adjust to and survive in new circumstances.

66. UNESCO and NOAA 2005: 79.

67. UNESCO and NOAA 2005: 58-59

A Day in the Life of Lipe

A typical day in the village starts an hour or two before sunrise. Hook-and-line fishermen leave the house sometimes as early as 5 a.m. to look for small fish to use as fresh bait. As soon as they get up, men and women fetch water from a nearby well⁶⁸ for the kitchen; they believe that the earlier they get to the well, the better the water, which will be used not only for washing but for making coffee or milk for babies and cooking. Men then take a shower, which not only cleans the body but is believed to be a lucky way to start the day. Kopi (Malay coffee) is commonly drunk in the morning. Favorite snacks eaten before breakfast include sweets made of wheat flour and sticky rice with steam custard. Women cook rice and fry fish or heat up dinner leftovers for their men to take to sea. Men who are going fishing eat breakfast and drink their kopi before women, then head out for hook-and-line fishing, either alone or in groups of two or three. In the dry season, some women join these trips. Trap fishermen tend to leave later, depending mostly on the tides.

The sound of long-tailed boats revving up for a day of fishing marks the start of another day. Before school, some boys go out for a short fishing trip or to check on traps they set up in days before. Children can be seen leaving their houses in time for school, which runs from 8:30 a.m. to 3:30 p.m. Women spend the early hours taking care of household chores – cleaning the house and yard, making charcoal for cooking fuel, washing clothes at a nearby well, or sewing. They shower after finishing their chores and, unless they have breakfast with their husband who is not going out to sea that day, get together with other women in the neighborhood to have breakfast. Favorite foods include kanom jean (boiled rice noodle, usually mixed with fish curry soup) and purchased noodle soups. Breakfast can turn into a social gathering or card-playing session that lasts for hours. Meanwhile, men who have not gone out to sea might spend the day making new traps, getting together occasionally to cut rattan or wood. Other women look after their young children or start making desserts, which the Urak Lawoi' particularly enjoy. Teenagers usually help their mothers prepare lunch, consisting of steamed rice, soup, stir-fried vegetables, and fried or grilled fish. Schoolchildren return home to eat.

In mid-afternoon, children head home from school and men return from fishing. As the boats return to the landing site, their catch is sorted, weighed, recorded by the taukay, then loaded into iceboxes on waiting delivery boats to be shipped to market. A few people hang around the landing site to pick up fish for dinner. At home, women begin preparing the fish that men have brought home, likely a curry, fried seafood with chili paste, and steamed rice. Many men are still wet when they return from sea, and the first thing many do is fetch well water and take a shower. After everyone has showered, the family gathers for dinner. Electric generators start to hum as night falls. The rest of the evening is usually spent watching television, and most people retire around 10 p.m. This routine is rarely broken except for days of festival or in the dry season, when tourists arrive.

68. In spring 2006 a water pipe system was set up to bring water from Adang. A main pipe runs through the village, and households that can afford to connect to the system now have plentiful fresh water without trips to the well.

VIII. Challenges and Opportunities

*“Will Lipe turn into another Phi Phi island?”⁶⁹
(visitors’ concern about the islands’ future)*

The Adang Archipelago is not unique in being subject to influences that are forcing traditional societies to share the resources they traditionally relied on, resulting in environmental degradation and resource depletion. Traditional communities enter the global economy at the cost of their own traditions, culture, and way of life; it seems to be the inevitable price of participating in the modern world. But the Adang Archipelago, with its unique history and people, faces specific challenges and opportunities in regard to sustaining its natural and cultural resources.

A. Stakeholder collaboration

The Adang Archipelago remains one of the most important breeding grounds and habitats for marine life in the Andaman Sea and Indian Ocean, as well as home to the Urak Lawoi'. Yet stakeholders in the area are not working together to preserve its value. For example, the park considers natural resources as state property to be conserved for the common good, so it displaces residents and prohibits them from taking what was once common property on which they depended to live. To the Urak Lawoi', the archipelago is their home, where they have always enjoyed (and probably could have continued to enjoy) an unproblematic abundance of marine resources. Since their subsistence uses did not lead to environmental degradation, they do not see any need to develop conservation ethics. Now that the park has affected their means of livelihood, however, they justify illegal takings

as necessary to survival. Fishing and tourism operators, meanwhile, see the area as a source of profit, which they seek to maximize.

Competition among different stakeholders with different aims has made it impossible to implement rules or manage policies, especially given insufficient enforcement. Long-term planning also has suffered from frequent changes in park leadership. From 1987 through 1988, when conflicts between park officials and local residents peaked, the head position at the Adang park office was held by six different people. From the end of 2003 through the beginning of 2006, there were four different superintendents for Tarutao National Park. There has been a lack of experts and skilled personnel to manage a protected marine area effectively, and the park budget does not cover enough boats, personnel, and equipment for strong enforcement. Multi-use development has thus continued for the last couple of decades.



Photo 77: Stakeholder meeting

69. Phi Phi island, located close to Krabi and Phuket, was also home to the Urak Lawoi'. The island was known for its pristine marine environment and spectacular landscape. Within 10 years of the start of a tourism boom, however, and despite infrastructure to accommodate large-scale development, Ko Phi Phi was intensively built up and heavily visited by tourists from all over the world. As the land and the sea environment degraded rapidly, the Urak Lawoi' were relocated to a tiny corner of the island.

Unless the park starts to be managed to allow only the Urak Lawoi' – as first inhabitants and the indigenous people of the area – fishing and gathering rights, the archipelago's natural resources are at great risk of being overexploited. A top-down structure of centralized decision- and policy-making such as the national park establishment will not guarantee conservation of natural resources unless the goals of the park can be enforced and/or consensus can be reached among the parties affected. Authorities such as park and fishery officials, who share an interest in resource conservation, should join forces to eliminate conflicting policies and practices, as well as overlapping responsibilities.

Historically the Urak Lawoi' have been easily dispossessed of their resources, land, and traditional practices, as they have lacked the legal and political means to defend their ways of life against powerful outside interests. Fresh water is in short supply on Lipe and contaminated during the tourist season. Near-shore reefs are damaged by sewage and boat traffic. Forests are cleared to make way for resort construction, leading to soil erosion and runoff. Soft corals have been poached. Many Urak Lawoi' feel powerless to do anything about this exploitation of resources, and worry about taking what they can before others do.

Locally, the park could and should involve the Urak Lawoi' in managing such environmental issues. Not only are they the most experienced users and the ones to benefit or suffer directly from impacts, they also have knowledge and skills related to the local

environment. This knowledge has been exploited by fishery entrepreneurs for profit, but has not been tapped by park management, for whom the Urak Lawoi' could have been the most valuable collaborators in making wise management decisions.

B. Sustainable development

Resource exploitation by the fishery and tourism industries in the park is a complex issue, as it is not clear how feasible it will be to conserve natural resources when fishery and tourism are Thailand's top export industries, and the nation depends on fishing as one of its most important foreign-income earners. For Satun province, fisheries make up the largest industry by far, and the Andaman Sea attracts fishing

“Without the collaboration and involvement of local people, the Adang Archipelago is a park only on paper.”

fleets from other provinces seeking an alternative to the depleted Gulf of Thailand. In theory, park flora and fauna are protected under the National Park Act B.E. 2504 (1961), and any trade or transport of species out of the park is illegal. In reality, economic and political pressures and weak law enforcement have made illegal fishing common in a political environment that favors economic development based on maximum utilization of resources. The profits from these industries are highly desired by people in power, while local residents welcome the cash income such businesses provide.

Development conserving the area's rare combination of cultural heritage and natural assets will ensure long-term economic benefits and local well-being.

This focus on quick, maximum profit is seriously damaging the very resources that support both the fishing and tourism industries. Rapid indiscriminate development is especially damaging to the area's unique assets – the coral reefs, undersea life, and rustic island atmosphere – cited as most impressive about the archipelago, and the main motivations for the 92 percent of tourists surveyed who want to return.⁷⁰ Among returning visitors surveyed on negative changes, 40 percent of the Thais mentioned environmental degradation, while 34 percent of foreigners cited overdevelopment. Forty percent of visitors themselves say tourism development is the major threat to the environment of the Adang Archipelago.⁷¹

At current rates of use, it is hard to see how the best qualities of the Adang Archipelago can be sustained for the long run. Measures are long overdue to raise awareness and education about sustainable use and to put into effect the concept of carrying capacity. Support will be needed from higher and broader levels, such as through provincial, national, or regional policies supporting comprehensive plans for economic development and sustainable resource use. Designating parts of the Adang Archipelago as a special conservation or “no take” zone for all but Urak Lawoi' subsistence needs would allow not only for regeneration of the fishery, but also for a return to the Urak Lawoi's traditional, sustainable means of livelihood. Within such a conservation zone, the limited budget, equipment, and staff of the park and fishery

offices could be put to more effective use.

Tourism development that focuses on quality instead of quantity will help to conserve the Adang Archipelago as a rustic, peaceful destination that is unique in these qualities among all other island resorts in Thailand. While low-impact development may not generate as much income in the short term, it offers better potential for sustainable benefits in the long run, because natural resources are not put at risk. Low-impact development also has the merit



Photo 78: Trawler catch

70. UNESCO and NOAA 2005: 74-75.

71. Wongbusarakum 2006

of fostering social and human development, as the Urak Lawoi' with whom tourists come into contact would not be under such immense pressure to alter their traditional way of life. Baseline data, plus monitoring and information systems need to be developed if there is to be any hope of achieving a sustainable development project with the key aim of ensuring reasonable livelihoods for local resource users within safe ecological limits. Both scientists and Urak Lawoi' could contribute to such data gathering, as scientific research complements the knowledge passed on by generations of local people through extended observation of, and interaction with, the natural environment.

sense of pride in their relationship to their ancestral homeland, the Urak Lawoi' are identified – in many cases willingly – in new ways. For the park, they have become scapegoats who need to be removed for conservation goals to be achieved. For the *taukay*, they are a readily available source of labor. And for the tourism industry, their unique situation creates a marketable asset for generating profit as well as filling the need for local expertise at low cost. For many who promote and consume these identities, the Urak Lawoi' are sea gypsies who represent an attractive relic of simpler ways of life – the “noble savage” who is the picturesque “other” to the citizen of the developed, modern world.

87% of the Urak Lawoi' students in a pilot curriculum integrating local knowledge said they feel love for, and want to protect, their local resources.⁷²

C. Empowerment of the Urak Lawoi'

As an ethnic minority group with a significant body of knowledge and skills related to the sea, the Urak Lawoi' could contribute their unique indigenous knowledge to the richness of global cultural diversity. Yet they are often misperceived by outsiders as “primitive” and inferior. The advantages of nomadic food foraging are not understood by sedentary societies, which tend to see it as an unnecessary or destructive practice – just as subsistence-level production tends to be seen as unproductive, backward, and lazy. In such a context, the Urak Lawoi' can hardly contribute their considerable knowledge and skills about the sea, especially as modern social institutions promote the view that indigenous tradition is something to move beyond. Taking the place of a

Historically the Urak Lawoi' have lacked leadership institutions to represent their concerns and address problems such as loss of land and traditional foraging and gathering rights, alternative means of livelihood, degradation of the natural resource, and disintegration of their traditional culture. Community leaders have been, for the most part, descendants of To Kiri and outsiders whose main interests are related to business, and on whom the Urak Lawoi' have become deeply dependent for their livelihood. Without compassionate leadership, it will be hard for the Urak Lawoi' to unite around common goals. As the weakest political interest group, they are most vulnerable to disruptive changes in the Adang Archipelago. They do not seem to have developed an awareness of what will be lost to them as a people if they accept the option of

72. Student evaluation of a pilot project supported by the United Nations Development Programme in which a curriculum based on Urak Lawoi' local and indigenous knowledge was implemented at Ban Ko Adang School on Lipe in 2005.

continued development through integration into the global economy.

For this reason, it is important to raise awareness within the public about the Urak Lawoi' and their culture, so that their invaluable knowledge will not be lost with their oral traditions. This task becomes increasingly urgent with the rapid pace of change in the Adang Archipelago. It has been suggested that Urak Lawoi' knowledge might be preserved by integrating them into the local school curriculum and recording written accounts. Although this contradicts their traditional ways of learning in real-life contexts, such artificial means of preservation could help counteract a loss of knowledge and open a way for them to retrieve and conserve their traditions in their own manner.

Any viable proposals need to empower the Urak Lawoi' by developing their self-reliance, sense of community membership and leadership, and their ability to take an active role in an environment of rapid change. It is crucial that the capacities of Urak Lawoi individuals and communities are developed in different areas to support their participation in the modern world in such a way that they themselves are able to make choices that will truly benefit them in terms of their present well being, future generations, and the surrounding environment upon which their livelihood depends. Capacity building is needed, for example, in areas of sustainable fishery, tourism development, natural resource management, and cultural conservation. These activities take time, effort, and some form of institutional support. Urak Lawoi' will need to be recruited who understand and have firm convictions in the value of their culture and the local environment. Incentives must exist that will outweigh the benefits of remaining in a client-patron relationship to

outsiders, which may call for expanding their perceived economic and social choices through training and facilitating. To develop a sense of community membership and leadership, they need to become aware of the advantages of group effort over individual or household action.

What is needed now is an array of interrelated efforts that can be maintained in the long term, whether initiated by the Thai government, NGOs, or international organizations that support the conservation of traditional knowledge. Any such effort, to be effective, must be ecologically and economically sustainable and call on direct participation by the Urak Lawoi' themselves. Ultimately, countering the loss of traditional knowledge and culture will depend on the degree to which the Urak Lawoi', through new partnerships, are able to value their own distinctiveness.



Photo 79: Urak Lawoi' representative in a curriculum meeting (Courtesy Thanit Bootpetcharat)

IX. Final remarks

Urak Lawoi' culture is not a static collection of fixed practices and values, but an evolving balance of conservation and innovation over many decades. Their adaptation from semi-nomadic foraging to the modern market economy within restricted circumstances shows them to be an intelligent, practical, and highly adaptable people. However, not all of them are aware of the consequences of the options available to them. To make fair choices, they need to be informed as well as involved in decisions that affect them. The Urak Lawoi' should be the ones to tell us who they are, how their needs and ways of life can be taken into account in development plans, and what they are willing to do.

It is clear that the assets of the Adang Archipelago – natural and cultural – can be maintained only if all parties appreciate their importance and generate the will to protect them. It should be emphasized that even though Urak Lawoi' empowerment and participation in conservation efforts are crucial, they will not solve the problems of resource exploitation and cultural disintegration. A realistic development strategy must not blindly encourage community-based resource management without considering the community's readiness, nor stubbornly push for intervention by outside experts without considering the sustainability of the development projects themselves. In the face of powerful economic interests and globalization,

the chance of realizing development that takes into consideration sustainable patterns of resource use and social development can be achieved only if all parties – especially those with political and economic power – understand and are willing to support such development. Unless that happens, the Adang Archipelago will most probably turn into yet another case of a crowded, overbuilt, degraded place whose unique ecosystem and distinctive society have been irrevocably lost. ■



Photo 80: The framework for a long-tailed boat

Appendix A

Urak Lawoi' Language

Urak Lawoi' is a language in the Austronesian family. Traditionally it did not have a written form. The language is similar to Malay in terms of words and sounds, but somewhat different grammatically. Linguistically, it can be considered a dialect of Malay. Urak Lawoi' has 23 consonant and 8 vowel phonemes.⁷³ All the consonant phonemes occur syllable-initially. The consonants marked with a hyphen in the chart below can also occur syllable-finally. There are consonant clusters of two or three phonemes.

Urak Lawoi' consonant phonemes	Labial	Alveolar	Alveo-palatal	Velar	Glottal
Stops					
voiceless aspirated	ph	th	ch	kh	
voiceless unaspirated	-p	-t	-c	-k	-ʔ
voiced	b	d	j	g	
Fricatives			-s		-h
Nasals	-m	-n	ɲ	-ŋ	
Laterals		-l			
Semi-vowels	-w	-r	-y		

Source: Hogan 1999:1

The eight vowel phonemes of Urak Lawoi' are shown below. The language has diphthongs.

Urak Lawoi' vowel phonemes	Front	Central	Back
	Unrounded	Unrounded	Rounded
High	i		u
Mid	e	ə	o
Low	æ	a	ɔ

Source: Hogan 1999:3

There is no distinctive difference between long and short consonant or vowel phonemes. Urak Lawoi' is a non-tonal language, but word stress and sentence intonation can change sentence type and meaning. For example, at the end of a normal sentence, there is a rising and then falling intonation. A rising intonation at the end of a word or sentence is used in a question or to emphasize affirmative or negative statements. Although Thai and Urak Lawoi' differ in terms of sound systems and word order, their final particle and classifiers are similar.

73. Hogan 1999: 1, 3.

Transcriptions into roman script use the obvious letters from the table on page 71 with the following exceptions:

ŋ = ng

ɲ = ny

ʔ = ' in syllable final position and not represented initially

æ = ae

ə = e, but where it represents the long final vowel of Adang dialect then -er

o = o, but where it represents the long final vowel of Adang dialect then -or

Appendix B

Adang Archipelago Place Names and Stories

Urak Lawoi' terms

<i>aye</i>	water
<i>batu</i>	hard rock around the island
<i>besor</i>	big
<i>cro'</i>	corner or small area
<i>dalap</i>	landward
<i>demi'</i>	small
<i>huma</i>	paddy
<i>hutat</i>	inside
<i>jirai</i>	graveyard
<i>kubak</i>	pond
<i>kuha</i>	cave
<i>lawoi'</i>	sea or outside
<i>luwor</i>	seaward
<i>patay</i>	beach
<i>pulau/pulaw</i>	island
<i>sungai</i>	waterfall, stream, river
<i>tanyok</i>	peninsula
<i>telaga</i>	well
<i>telo'</i>	bay
<i>tukot</i>	rock in the water, possibly partially above water

Main islands

Pulaw Betok	(<i>betok</i> = a type of bamboo) An island with many <i>betok</i> bamboo.
Pulaw Rawi	A merchant ship once tried to escape pirate attack here.
Pulaw Hadak (Adang)	Some say <i>adang</i> derives from <i>udang</i> , meaning “shrimp” in Malay. Others say Adang is the name of a ship that tried to escape pirate attack here.
Pulaw Nipih	(<i>nipih</i> = flat) An island with flat land.

Small islands close to Pulaw Betok (Tong island)

Pulaw Rebah Lawoi'	(<i>rebah</i> = bees)
Pulaw Rebah Hutat	(<i>hutat</i> = forest or inside) An island with many bees (<i>rebah</i>)
Pulaw Lukoy	(<i>lukoy</i> = a type of edible root plant) An island with <i>lukoy</i> plants.
Pulaw Sakay Hutat	No information
Pulaw Sakay Lawoi'	No information
Pulaw Kra Puteh	(<i>kra</i> = monkey, <i>puteh</i> = white) Villagers found a white monkey left on the island.
Pulaw Buloh	(<i>buloh</i> = bamboo) An island with lots of bamboo.
Pulaw Sumok	(<i>sumok</i> = exhaust) Villagers said that a piece of engine exhaust pipe floated by here.
Pulaw Palay	(<i>palay</i> = a type of tree used to make the legs of a fish trap) An island with many <i>palay</i> trees.
Pulaw Sarak	(<i>sarak</i> = nest) The island used to have many swallow nests.

Small islands close to Adang

Pulaw Laca	No information
Pulaw Getah	(<i>getah</i> = pararubber tree) Pararubber trees floated here.
Pulaw Bulai	(<i>bulai</i> = round) An island with a round shape.
Pulaw Buloh	(<i>buloh</i> = a type of bamboo) An island with many <i>buloh</i> bamboo and smooth black pebbles on the beach.
Pulaw Cabak	(<i>cabak</i> = wood used to make a bird hunting tool) In the past, people like to cut <i>cabak</i> wood here.
Pulaw Besi	(<i>besi</i> = iron) A piece of iron from a big ship was transformed into an island by the deity Gudamai. Some say that water on the back side of the island has a rust color when the tide is highest.
Pulaw Bubu	(<i>bubu</i> = fish trap) A place where people liked to place traps.
Pulaw Temuih	(<i>temuih</i> = hole)

Small islands close to Lipe

Pulaw Tukot Bukak	(<i>bukak</i> = a type of bird with feet like a duck)
Pulaw Kara'	(<i>kara'</i> = hawksbill turtles) An island where hawksbill turtles used to lay eggs.
Pulaw Talak	(<i>talak</i> = a type of fish) An island where many <i>talak</i> fish were once found.
Pulaw Usen Lawoi'	An island opposite Cro' Usen on Lipe.

Places on Pulaw Betok (Tong island)

Telo' Nipah	(<i>nipah</i> = nipa palm) A bay with many nipa palms.
Telo' Dalap	A bay that is landward from Telo' Nipah.
Telo' Bagad E	A bay with many monkeys.
Patay Nyamnyam	People used to camp on this bay, but because they did not keep the area clean, the spirit of the place haunted them with the sound <i>nyamnyam</i> until they had to move away.
Patay Sireh	(<i>sireh</i> = a type of betel plant) A beach with many betel plants.
Patay Rebah	(<i>rebah</i> = bee) A beach with many bees.
Tanyok Guha Getak	(<i>getak</i> = a kind of marine fish) A beach with a cave that has many <i>getak</i> fish.
Aye Sawa	(<i>sawa</i> = a python) People camped here on food foraging trips.
Aye Cawi	No information
Aye Mathu	(<i>mathu</i> = bee) A small pond with many bees.
Tanyok Layor	(<i>layor</i> = sail) Peninsula with a rock having the shape of a sail or a wall.
Patay Layor	A beach next to Tanyok Layor.
Patay Betok	(<i>betok</i> = a type of bamboo) Beach with many <i>betok</i> bamboo.
Patay Naydan	No information
Patay Kamnan	In the past a <i>kamnan</i> (district administrative chief) visited the area
Patay Phuthen	In the past a <i>phuthen</i> (congressman) visited the area.

Places on Pulaw Rawi (Rawi island)

Patay Panyak Tapor	Site of a former village that is a park station today.
Patay Buloh	A beach with many bamboo.
Patay Gula	(<i>gula</i> = sugar) During World War II, people robbed a sugar junk and hid the sugar here.
Telo' Aye Maneh	(<i>aye</i> = water, <i>maneh</i> = sweet)

Telo' Kawa'	(<i>kawa</i> = pan) Older people say there used to be a big pan on the beach that the deity Gudamai transformed into a big rock.
Cro' Lakcay	(<i>lakcay</i> = fishtail palm) A small area with many <i>lakcay</i> trees.
Aye Baru	(<i>baru</i> = Mattei tree) A <i>baru</i> tree grew in the middle of a stream.
Cro' Cina	(<i>cina</i> = Chinese) A small area where Chinese people from a pirated junk were murdered. Black and white rocks were found that looked like Chinese faces.
Patay Blawoi'	(<i>blawoi'</i> = a wind blowing from the northwest)
Cro' Nangnaih	(<i>nangnaih</i> = pineapple) Pineapples were grown here in the past.
Tanyok Batu Hitap	(<i>hitap</i> = black) A peninsula with black rocks.
Aye Nibok	(<i>nibok</i> = a type of palm) An area where <i>nibok</i> plants grow in the water.
Telo' Jawa'	(<i>jawa'</i> = monitor lizard) Monitor lizards used to like to come eat turtle eggs at this bay.
Tanyok Jawa'	A peninsula next to Telo' Jawa'.
Telo' Kunye' Besar	(<i>kunye</i> = tumeric) People used to bring yellow sticky rice and chicken curry as offerings to spirits after a wish was granted.
Telo' Kunye' Demi'	People made offerings to spirits here.
Telo' Naga / Telo' Besi Temaga	(<i>naga</i> = jackfruit tree, <i>temaga</i> = brass) There used to be many <i>naga</i> trees, but many were cut down for boat frames. A big brass pot floated ashore here.
Telo' Puloi'	(<i>puloi</i> = sticky rice) Older people stopped to have sticky rice here when they went camping.
Tanyok Puloi'	A peninsula next to Tanyok Puloi'.
Telo' Pulik	(<i>pulik</i> = oyster) Some people say there used to be many oysters in the area but they were overharvested for sale. Others say it is called <i>pulik</i> because the bay has a shape similar to a fish spear called <i>pulik</i> .
Tanyok Pulik	A peninsula next to Telo' Pulik.
Aye Terjot	(<i>terjot</i> = jump) A bay with a large rock at the base of a waterfall. When the water hits the rock, it looks like it is jumping into the sea.
Aye Raga	(<i>raga</i> = basket) A woman went bathing and forgot a basket here.
Aye Buyok	(<i>buyok</i> = water jar)
Batu Hitap	(<i>hitap</i> = black) A peninsula with black rocks.
Aye Lika	(<i>lika</i> = sea almond tree) A <i>lika</i> tree grows by a stream here.
Telo' Tango' Besar	No information
Telo' Tango' Dalap	A beach beyond Telo' Tango' Besar.
Telo' Tango' Luwor	A beach seaward of Telo' Tango' Dalap.
Cro' Klame	(<i>klame</i> = coconut) A small area with many coconut trees.

Tanyok Gulo'	(<i>gulo'</i> = cleaver) A fisherman dropped a cleaver into the water here.
Tanyok Babi	(<i>babi</i> = pig) A rock here shaped like a pig's head is believed to be holy. It was once removed by map-making navy officials, a few of whom died afterward. When an official dreamed that the rock should be returned, it was brought back to the same place.
Cro' Bema	(<i>bema</i> = Burmese) A Burmese merchant ship used to park here.
Cro' Kemuwak	(<i>kemuwak</i> = pandanus plant) A small area with many pandanus plants.
Telo' Danan	(<i>danan</i> = a type of rattan) A beach with much rattan.
Batu Cako'	(<i>cako</i> = link) An area with two rocks linked together.
Patay Lebat Demi'	(<i>lebat</i> = a type of tree used for boat frames or house construction) A beach with many <i>lebat</i> trees.
Patay Lebat Besor	A big beach with many <i>lebat</i> trees.
Batu Kopi	(<i>kopi</i> = Malaysian coffee) People who came to fish used to stop to have coffee here because the rock is nice and flat.
Telo' Priyat	(<i>priyat</i> = a ghost/spirit of this place) People believe that <i>priyat</i> was a half ghost, half person who liked to lure people to play with him. If they did not pay attention, he ate them.
Patay Penpen	(<i>penpen</i> = a fish-eating black bird with a long beak that lives on the beach)
Telo' Honghong	(<i>honghong</i> = calling sound of a dragon) People believe that dragons used to come hibernate in the bay for months at a time.
Telo' Bido' Dalap	The name was given during British colonial times. Villagers used to plant things here.
Telo' Bido' Luwor	Outside Telo' Bido' Dalap.
Telo' Pawoh	(<i>pawoh</i> = wild mango trees) A bay full of wild mango trees.
Telo' Ethong	No information
Patay Kriyak	No information
Tanyok Kenira	(<i>kenira</i> = flag) Westerners once flew a flag here.
Telo' Pinang	(<i>pinang</i> = betel nut palm)
Patay Lisoh	(<i>lisoh</i> = pant) An old man dug for turtle eggs with a stick for so long it made him pant.
Telo' Batik	No information
Telo' Gahmaloh	No information
Telo' Aye Raja	(<i>aye</i> = water, <i>raja</i> = king) A Thai king visited this bay.
Patay Buloh	(<i>buloh</i> = bamboo) A beach with many bamboo.
Patay Butot	(<i>butot</i> = a type of tree, <i>Barringtonia croccinea</i>) A beach with many <i>butot</i> trees.
Patay Asap Sala'	(<i>asap</i> = tamarind tree) A beach with many tamarind trees.

Patay Panyak Bagat / Patay Panyak Somchay	(<i>panyak</i> = long, <i>bagat</i> = long-term camping for food foraging) The former location of a village and campsite whose occupants moved to Lipe after the park was established. A park official named Somchay looked after the area. Today it is a park station.
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Places on Pulau Hadak (Adang island)

Patay Jeru	(<i>jeru</i> = casuarina trees) A beach with many casuarina trees. Location of a park station.
Telo' Aye Besor	A big bay with fresh water all year round.
Telo' Aye Demi'	A small bay with fresh water all year round.
Patay Butot	(<i>butot</i> = a tree with yellow flowers) A beach with many <i>butot</i> trees.
Patay Cima'	A woman named Cima' was brought here to die because she had smallpox.
Batu Caca'	A beach with a sharp, pointy rock.
Cro' Naka	(<i>naka</i> = jackfruit) A small area where Muslims used to shelter from wind. They ate jackfruit and left seeds that grew into trees.
Batu Hubat	(<i>hubat</i> = white) A rock in which a holy spirit is believed to dwell. Local people fly flags in honor of wishes granted.
Telo' Blanga	People believe that a big pot here was cursed into a stone.
Cro' Pa' Yure	A place where a man named Yure from Bulon liked to stay overnight.
Telo' Nipah Demi'	(<i>nipah</i> = nipa palm) A small bay with many nipa palms.
Telo' Nipah Besor	(<i>nipah</i> = nipa palm) A large bay with many nipa palms.
Telo' Munyu'	(<i>munyu</i> = a plant with red fruit) A bay with many <i>munyu</i> trees.
Patay Parak	(<i>parak</i> = a big knife) A beach where trees were cut with a big knife that was left there.
Patay Lima Ba[Ha]Ya / Patay Lima Sa	(<i>ba[ha]ya</i> = crocodile) The first of five beaches on northwest Adang where crocodiles used to live.
Patay Lima Nunek / Patay Lima Duwa	(<i>nunek</i> = Nitta sprout tree, <i>duwa</i> = two) The second of the five beaches, which has four or five nunek trees.
Patay Lima Tiga	(<i>tiga</i> = three) The third beach.
Patay Lima Pai'	(<i>pai'</i> = four) The fourth beach.
Patay Lima Hujok / Patay Lima Batu / Paay Lima Lima	(<i>lima</i> = five) The fifth beach.
Cro' Baru	(<i>baru</i> = a Mattei tree) A small area with <i>baru</i> trees.
Aye Kerbau Berenap	(<i>kerbau</i> = buffalo, <i>berenap</i> = stay in water) A stream where buffalos liked to stay.
Tanyok Malete	No information

Cro' Buloh	(<i>buloh</i> = a type of bamboo) A small area with many <i>buloh</i> bamboo.
Patay Hiyu	(<i>hiyu</i> = a type of shark) A beach visited by many <i>hiyu</i> sharks.
Patay Lemu	A beach where cow bones were found.
Telo' Laca Besar	No information
Telo' Laca Demi'	A sandy beach.
Telo' Laca Batu	A beach with many small pebbles.
Tanyok Pusa / Tanyok Hiyu Pusa	(<i>pusa</i> = a type of shark) Some people say there used to be <i>pusa</i> sharks living in the area. Others say a man brought his pregnant wife to make offerings for a wish granted. He killed a snake, and their child had a head like a snake.
Telo' Lileh	(<i>lileh</i> = flow) A stream flows into the sea here.
Telo' Bakhu	(<i>bakhu</i> = a type of tree) A beach with many <i>bakhu</i> trees.
Telo' Cengan	(<i>cengan</i> = a type of tree) A beach with many <i>cengan</i> trees
Telo' Puya'	(<i>puya</i> = soursop, a tree with fruit resembling durian, but the meat of the fruit is sweet and sour, similar to a grenade apple)
Telo' Pawoh	(<i>pawoh</i> = wild mango tree) A bay with many wild mango trees.
Telo' Asap Baya	(<i>asap</i> = wild tamarind tree) A beach with many wild tamarind trees.
Telo' Epom	No information
Aye Raja Siyok	(<i>raya</i> = king, <i>siyok</i> = fangs) A story is told about a Muslim king who stayed at this beach and was supposed to have long fangs. The local people, curious about the fangs, asked the cook to prepare long watercress without cutting it. The king had to open his mouth because the vegetable got tangled between his teeth, and others finally saw his long fangs.
Telo' Munyu	(<i>munyu</i> = a type of tree with red fruit) A bay with many <i>munyu</i> trees.
Cro' Yipun	A small area where Japanese soldiers stayed during World War II.

Places on Pulau Nipih (Lipe island)

Patay Panyak	Long beach, running from the Marine life Conservation Unit of the Fishery Department to the Andaman Resort
Telo' Sama'	(<i>sama'</i> = type of tree whose bark is used to dye cloth red and can be smashed to make rope; the trunk is used to make charcoal)
Aye Talaga Batu	This was a tiny pond that appeared only in the dry season, which was believed to have been created it by a god. It has no more water today.
Jirai	Graveyard.
Wai	Temple.
Balay	Shrine to To Kiri.

Pulaw Karah	(<i>karah</i> = hawksbill turtle) An island where hawksbill turtles used to lay eggs.
Tupo'	Village.
Padak	Clear, flat area.
Kosi Ekheng	(<i>Kosi</i> = name of a man, <i>ekheng</i> = rice mill) Kosi used to reside, run a rice mill, and have a concession for turtle eggs here.
Cro' Usen	(<i>Usen</i> = name of an Urak Lawoi' man) Usen, who went hook-and-line fishing here, lost his balance one day while pulling a fish out of the water, and fell in.
Tukot Tengah	(<i>tengah</i> = middle) Rock piles between Cro's Usen and Pulaw Usen.
Patay Demi'	(<i>patay</i> = beach, <i>demi'</i> = small)
Patay Tanah Liyay Mirah	(<i>tanah</i> = sand, <i>liyay</i> = clay, <i>mirah</i> = red)
Tanyok Tuyor	(<i>tuyor</i> = a plant whose roots are used to make flour for dessert)
Cro' Dang Sukem	An area where a man named Sukem went fishing with his father. He climbed a tree to pick a swallow nest, but fell down and lost consciousness.
Patay Noma'	An area where a woman named Noma used to plant things. Now it is a site for a tsunami warning tower.
Cro' Mom	A small area to which a <i>mom</i> (Thai royal family member) claimed land rights.
Telaga Aye	A popular drinking water well in the dry season.
Kubak Baya	(<i>ba[ha]ya</i> = crocodile) Villagers say that crocodiles used to live in the pond.
Patay Daya	(<i>bai daya</i> or <i>barai' daya</i> = a south wind)
Cro' Baka	Small area with mangrove trees.
Batu Burok Le	Area where seagulls stay.
Patay Demi'	Small beach.
Patay Karah Besar	A large beach where hawksbill turtles came to lay eggs.
Patay Karah Demi'	A small beach where hawksbill turtles used to lay eggs. Today it is a graveyard.
Patay Sangnak	A beach where a man named Sangnak used to plant trees.
Tanyok Kaway	(<i>kaway</i> = octopus) A peninsula where an octopus used to live nearby.
Batu Apor	(<i>apor</i> = crab)
Cro' Guha	A small area with a small cave.
Cro' Huma	A small area where people used to plant things.
Kubak Sa'	A pond called Sa.

Appendix C

Major Islands of the Adang Archipelago

Islands in Tarutao National Park

Island	Length (km)	Width (km)	Highest point (m)	Area (km ²)
Tarutao	26.5	11	712	151
Adang	8.7	5.1	695	29.8
Rawi	10.6	5	481	28
Lipe	3.1	1.6	99	4
Tong	3.5	2.8	265	4
Bitsi	1.5	0.5	116	0.7

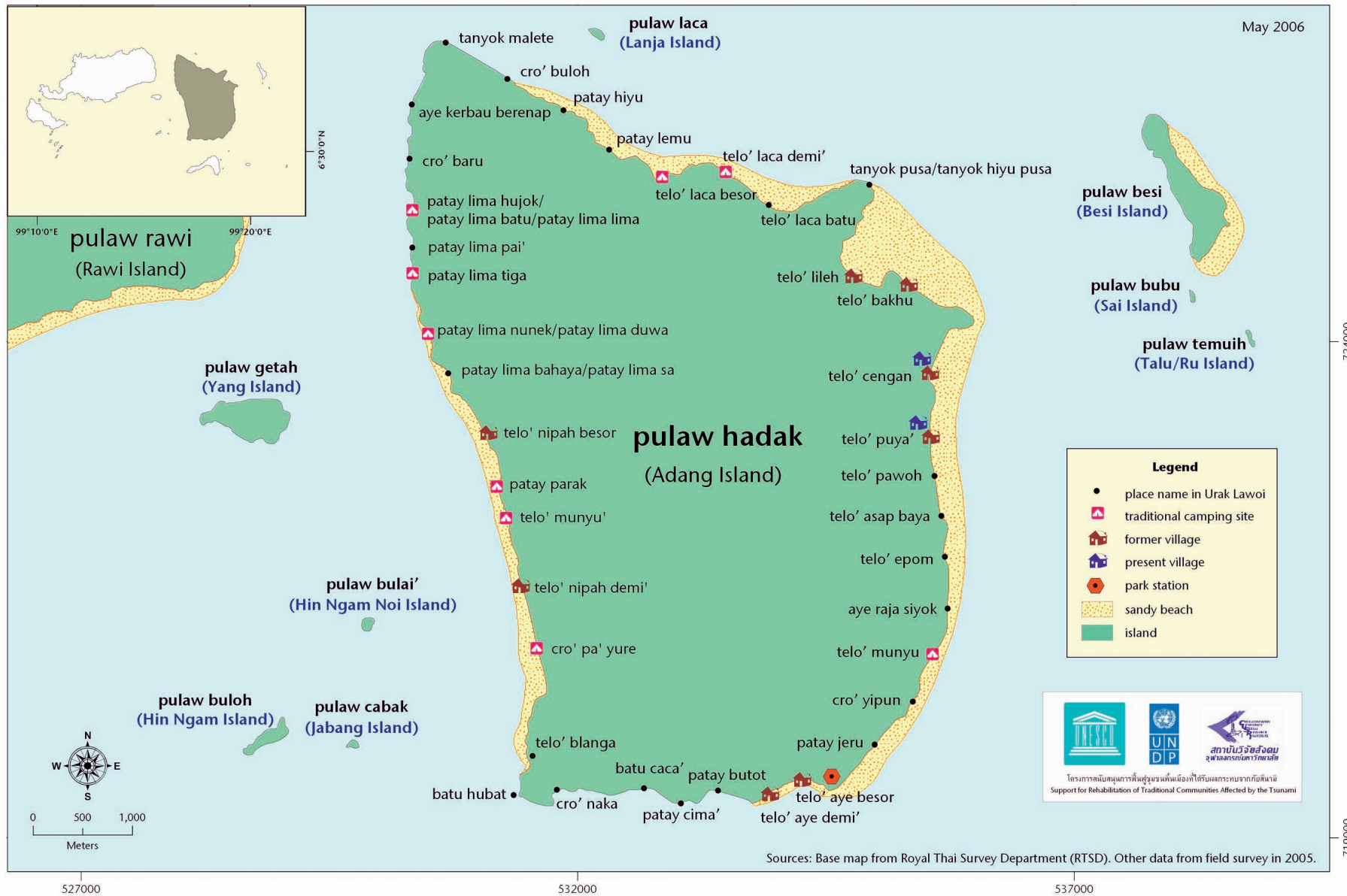
Sources: Dobias (1982:11) and Office of Academic Services, Chulalongkorn University (1992:2-5) for Tarutao; Royal Thai Survey Department (1997) for all other islands.

Hadak (Adang)

Adang is a mountainous island that reaches nearly 700 meters at its highest point. Until the 1980s it was a popular place for the Urak Lawoi' to live and to visit, with eight settlements and many *bagad* sites. The island is mostly covered by thick evergreen and deciduous forest, including many edible and herbal plants. It has multiple sources of fresh water – rivers, streams, waterfalls, and ponds – as well as a few flat areas of fertile land by the sea to cultivate crops and fruit trees. Small sandy beaches and bays are common along the coastline except for small stretches on the very northwestern tip, which are rocky.

The northeastern side has an inland swamp created by streams and falls, extending from Telo' Lileh to Telo' Puya'. A large lagoon with mangrove can be found at Telo' Bakhu. Two beaches on the east side, Telo' Cengan and Telo' Puya', separated by a rocky area, are home to an Urak Lawoi' village of about 100 people who make their living solely from fishing. Offshore of the northeastern point are three small islands: Besi (Lek), Bubu (Sai), and Temuih (Talu or Ru).

On the southeast corner at Laem Son near Telo' Aye Besor, in a larger area of flatland with casuarine trees, is the park station, accommodations, and campground. A 30-minute hike leads to a cliff, Pa Chado, that offers a spectacular view of Lipe island and the surrounding sea. This used to be an observation point to watch out for sea pirates. The south side of the island has a few small white sand beaches. At the bays Telo' Aye Besor and Telo' Aye Demi', formerly the site of an Urak Lawoi' village, there is a waterfall called Namtok Jonsalad ("pirate waterfalls") that flows into a stream year round. Near- and offshore of the southwestern side are many large boulders. The coral reefs on the south and southwest are heavily impacted by the southwestern monsoon.



The west coast of Adang has several small bays with very fine white sand. This side has many freshwater sources, including large brackish swamps with mangroves. The coral and sea life here is rich and abundant. Beaches on this side used to be popular *bagad* sites; two larger bays with wetland and mangrove forests, Telo' Nipah Demi' and Telo' Nipah Besor, had Urak Lawoi' villages. Offshore are four small islands: Cabak (Jabang), Buloh (Hin Ngam), Bulai' (Hin Ngam Noi), and Getah (Yang).

The northwestern side has rich forest and rocky shoreline with five small white sand beaches between Patay Lima Bahaya and Patay Lima Hujok. The near-shore coral reefs and sea life here are relatively intact. North Adang has a few bays with long stretches of fine sandy beach and the popular *bagad* sites Telo' Laca Besor and Telo' Laca Demi' by a freshwater pond.

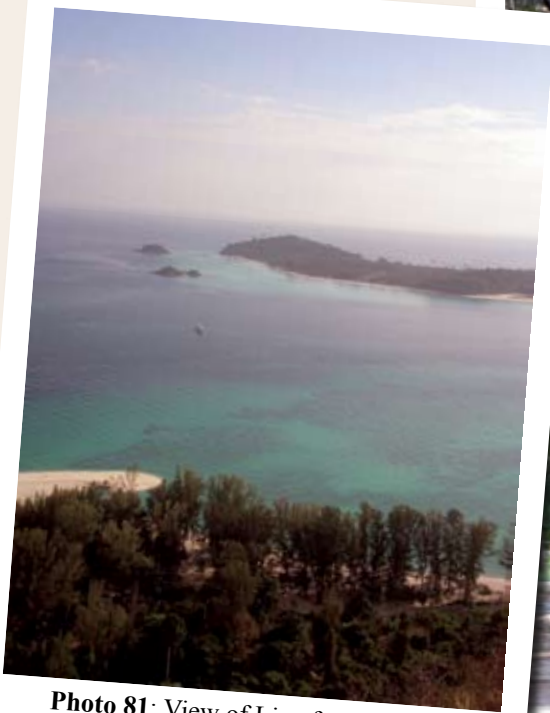


Photo 81: View of Lipe from Pa Chado
(Courtesy Brendan Carroll)



Photo 82: Casuarine trees at Laem Son
(Courtesy Soimart Rungmanee)



Photo 83: Visitors at White Sand Beach



Photo 84: Telo' Aye Raya
(Courtesy Brendan Carroll)

Rawi

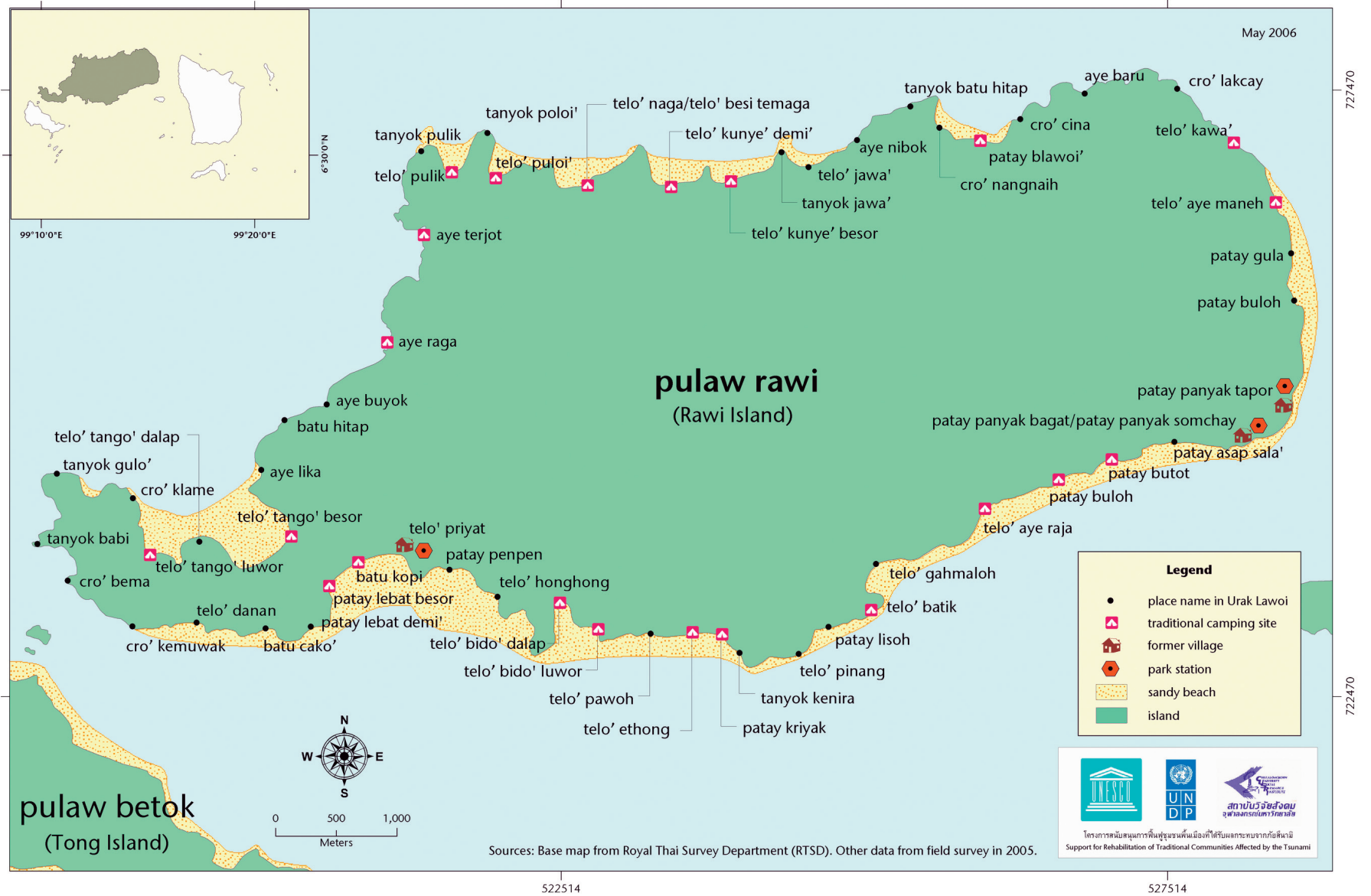
Until the 1980s, Rawi had three Urak Lawoi' settlements and numerous *bagad* sites. Like Adang, the island is mountainous, with rich evergreen and deciduous forest. There are a few mountain peaks ranging from 301 to 481 meters in the middle of the island, with the highest peak to the east. The south and north sides of the island have many freshwater sources, including waterfalls, streams, ponds, and swamps, some of which dry up during the dry season. There are many patches of mangrove along the south shore. The east side of Rawi has a few small bays with white sandy beach, and the coral reefs offshore are relatively intact. Two park stations are located at the southeastern tips, at Patay Panyak Tapor (also called Had Sai Kao or White Sand Beach for its long white sandy beach) and Patay Panyak Bagat (or Patay Panyak Somchay). These two beaches used to be village sites. Today the park station at Patay Panyak Tapor is open during the tourist season for snorkeling trips, as it is considered one of the best snorkeling sites in the archipelago. Buoys and rope have been tied for visitors, as the current in the area can be quite strong.



Photo 85: A beach on Rawi island
(Courtesy Brendan Carroll)

The main park station on Rawi is to the south at Telo' Priyat, a former Urak Lawoi' village at a large flat area with a stream. A large wetland is located between Batu Kopi and Telo' Tango' Besar. The southwest monsoon season heavily impacts the coral reefs on the south side, as on Adang. Some beaches still have large pieces of coral and rock deposited by a big storm in 1986.

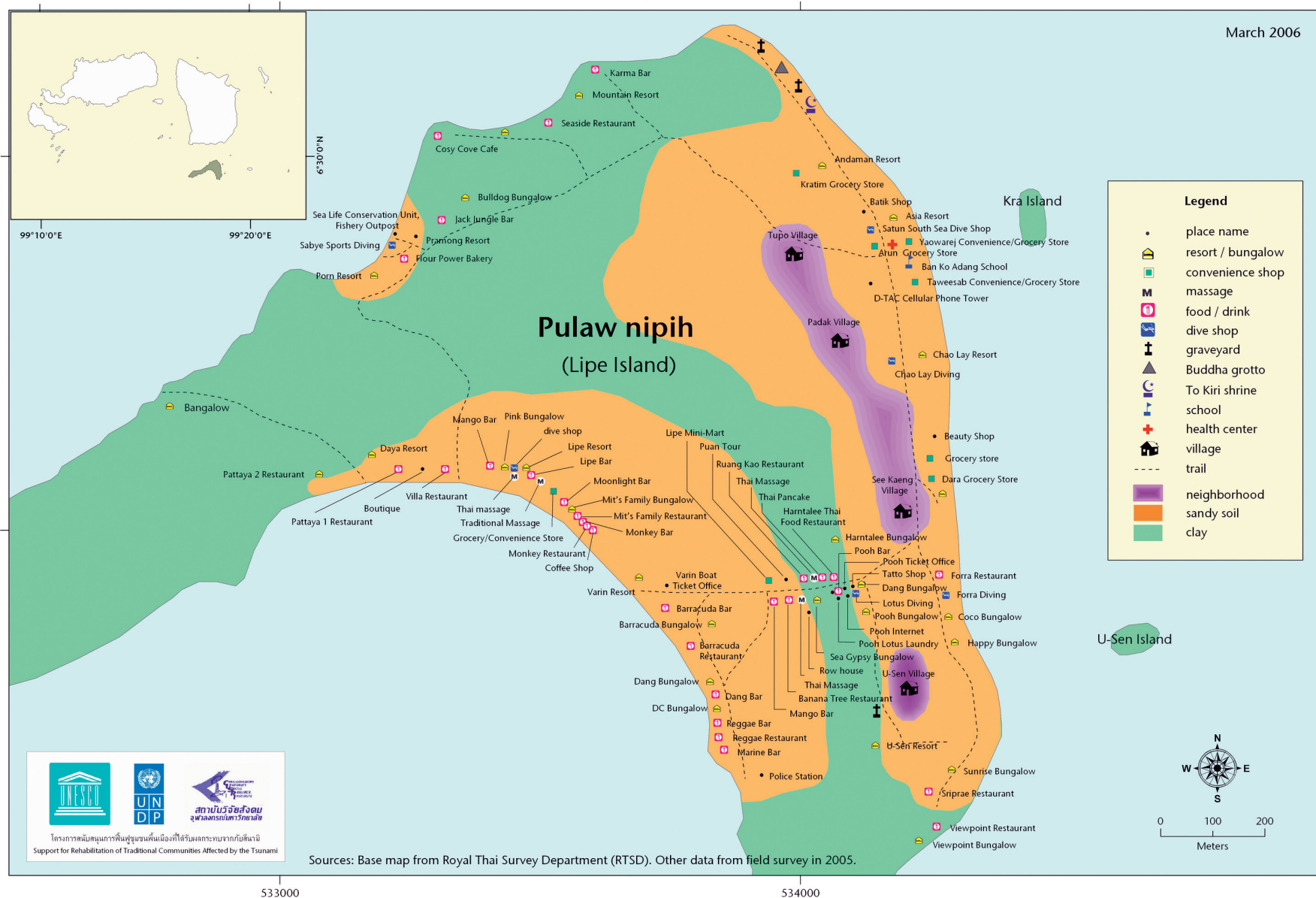
On the west there are long stretches of rocky coastline. The northwestern side of Rawi is rocky and has a large waterfall, Aye Terjot. Small bays in this area were *bagad* sites in the past. The north side of Rawi has quite a few streams, falls, white sandy beaches and some flat areas. A couple of mangrove forests can be found on Telo' Kunye' Besar and Patay Blawoi'.



Map 11: Rawi Island



Map 12: Tong Island



Map 13: East side of Lipe Island in 2005

Betok (Tong)

The west side of Tong is full of foreshore rocks. Most of the island's beaches are on the northeast, east, and south sides. The southwestern side has small ponds during the rainy season. The northeastern side has small patches of mangrove at Telo' Nipah, Telo' Dalap, and Telo' Bagad E. On the northeastern and southern sides are sites for short-term *bagad*. The south side of the island has a beautiful small bay, Patay Naydan, with fine white sand. Offshore is a chain of small islands and large rocks surrounded by spectacular coral. For example, Pulaw Sumok, or Hin Son island, is known for gorgonians and colorful soft coral. The two islands offshore of the northeastern tip, Pulaw Rebah Lawoi' (Pung Nork) and Pulaw Rebah Hutat (Pung Nai), or the Honey Islands, are also surrounded by many soft corals.



Photo 86: Clown fish and sea anemone
(Courtesy Neil Davis)



Photo 87: Sea fan
(Courtesy Neil Davis)

Nipih (Lipe)

Compared with other islands in the Adang Archipelago, Lipe – an island of only about 4 square kilometers to the south of Adang – is densely populated. Unlike the others, it is 60 percent flatland, and was originally called Pulau Nipih (“flat/thin island”). At the north, south and western tips are small hills less than 100 meters high. The east and the south sides have very long white sand beaches. On the eastern beach, referred to locally as the “front side” of the island, are a village and



Photo 88: Small island east of Lipe

several tourist resorts; this is also the main landing site of fishing boats and the location of public buildings such as the school, health center, and stores. The beach to the south, or “back side” (Patay Daya) has powdery white sand. This side is full of resorts, restaurants, bars, and other tourist businesses. Development has given Lipe a feeling quite different from other islands in the archipelago. It is common to hear motorboats and motorcycles, smell wood burning to make charcoal or incinerate garbage, and see villagers and foreign visitors.

Appendix D

Major Forest Types and Species in the Adang Archipelago⁷⁴

Scientific name	Family	Thai name
Moist evergreen forest		
<i>Anisoptera costata</i> Korth.	Dipterocarpaceae	กระบาก
<i>Artocarpus locucha</i> Roxb.	Moraceae	มะหาด
<i>Artocarpus kemando</i> Miq.	Moraceae	ขนุนป่า
<i>Cinnamomum bejolghota</i> (Buch.-Ham.) Sweet	Lauraceae	อบเชย
<i>Cotylelobium melanoxyton</i> (Hook.f.) Pierre	Dipterocarpaceae	เคี่ยม
<i>Dipterocarpus</i> spp.	Dipterocarpaceae	ตระกูลยาง
<i>Fagraea fragrans</i> Roxb.	Loganiaceae	ก้านเกรรา
<i>Hopea</i> spp.	Dipterocarpaceae	ตระกูลตะเคียน
<i>Lagerstroemia speciosa</i> (L.) Pers.	Lythraceae	อินทนิลน้ำ
<i>Shorea leprosula</i> Miq.	Dipterocarpaceae	สยา/สยาแดง
<i>Tetrameles nudiflora</i> R.Br.	Datisceae	สมพง
Dry evergreen forest		
<i>Alstonia scholaris</i> (L.) R.Br.	Apocynaceae	ตีนเป็ด
<i>Anisoptera costata</i> Korth.	Dipterocarpaceae	กระบาก
<i>Barringtonia acutangula</i> (L.) Gaertn.	Lecythidaceae	จิก
<i>Bombax anceps</i> Pierre var. <i>anceps</i>	Bombacaceae	จิวป่า
<i>Calophyllum inophyllum</i> L.	Guttiferae	กระทิง
<i>Chisocheton macrophyllus</i> King subsp. <i>Fulvescens</i> Mabb.	Meliaceae	ตาเสือ
<i>Dalbergia cochinchinensis</i> Pierre	Leguminosae- Papilionoideae	พะยุง
<i>Dalbergia cultrate</i> Graham ex Benth.	Leguminosae- Papilionoideae	เก็ดดำ/ กระพี้เขาควาย
<i>Dalbergia oliveri</i> Gamble	Leguminosae- Papilionoideae	เก็ดแดง/ชิงชัน
<i>Depterocarpus</i> spp.	Dipterocarpaceae	ตระกูลยาง
<i>Hopea ferrea</i> Laness.	Dipterocarpaceae	ตะเคียนหิน
<i>Hopea odorata</i> Roxb.	Dipterocarpaceae	ตะเคียนทอง

74. Anthropology and Sociology Department, Songkla Teacher College 1992:31-33.

Scientific name	Family	Thai name
<i>Hydnocarpus anthelintica</i>	Flacourtiaceae	กระเบา
<i>Lagerstroemia cochinchinensis</i>	Lythraceae	ตะแบก
<i>Celtis timorensis</i> Span.	Ulmaceae	แก้งซี่พระร่วง
<i>Tetrameles nudiflora</i> R.Br.	Datisceae	สมพง
Mixed deciduous forest		
<i>Bambusa bambos</i> (L.) Voss	Gramineae	ไผ่ป่า
<i>Bombax anceps</i> Pierre var. <i>anceps</i>	Bombacaceae	จิวป่า
<i>Careya sphaerica</i> Roxb.	Lecythidaceae	กระโดน
<i>Millettia leucantha</i> Kurz var. <i>buteoides</i> (Gagnep.) P.K.Loc	Leguminosae Papilionoideae	ชะเง้อ
<i>Stereospermum colais</i> (Buch.-Ham. Ex Dillwyn) Mabb.	Bignoniaceae	แคหิน
<i>Stereospermum neuranthum</i> Kurz	Bignoniaceae	แคทราย
<i>Thyrsostachys siamensis</i> Gamble	Gramineae	ไผ่รวก
Mangrove forest		
<i>Avicennia alba</i> Blume	Avicenniaceae	แสมขาว
<i>Avicennia officinalis</i> L.	Avicenniaceae	แสมดำ
<i>Ceriops</i> spp.	Rhizophoraceae	โปรง (ขาว)
<i>Nypa fruticans</i> Wurmb.	Palmae	จาก
<i>Rhizophora</i> spp.	Rhizophoraceae	ไม้ตระกูลโกงกาง
<i>Xylocarpus granatum</i> Koenig	Meliaceae	ตะบูนขาว
<i>Xylocarpus moluccensis</i> (Lam.) M.Roem.	Meliaceae	ตะบูนดำ
Beach forest		
<i>Calophyllum inophyllum</i> L.	Guttiferae	กระทิง
<i>Careya sphaerica</i> Roxb.	Lecythidaceae	กระโดน
<i>Ceiba pentandra</i> (L.) Gaertn.	Bombacaceae	ไม้หนูน
<i>Cerbera odollum</i>	Apocynaceae	ตีนเป็ดทะเล
<i>Melaleuca quinquenervia</i> (Cav.) S.T.Blake	Myrtaceae	เสม็ดขาว/เสม็ด
<i>Syzygium gratum</i> (Wright) S.N. Mitra var. <i>gratum</i>		เสม็ดชุน
<i>Nauclea orientalis</i> (L.) L.	Rubiaceae	กระทุ่มน้ำ
<i>Syzygium cinereum</i> (Kurz) Chantar. & J.Parn	Myrtaceae	เสม็ดแดง

Appendix E

Plants used by the Urak Lawoi⁷⁵ for Food

Urak Lawoi ⁷⁵	Thai	Scientific ⁷⁶	English ⁷⁶	Harvesting area and method	Parts eaten and preparation
ปรียา priya	ผักหวาน ทะเล	<i>Phyllanthus albidiscus</i> (Ridl.) Ary Shaw		Picked by hand on the beach	Young leaves and shoots cooked in coconut milk or blanched and dipped in chili sauce
โตะตะ to'de'	ผักหวาน ป่า	<i>Melientha sauvis</i> Pierre		Picked by hand in foothills	Young leaves and shoots cooked in coconut milk, stir-fried or eaten raw with chili sauce
กลาดี่ kladi	บอน	<i>Colocasia esculenta</i> (L.) Schott	Bon	Cut with a knife in foothills	Root and branch boiled or used in curry
รือโบก rebok	หน่อไม้	<i>Gramineae</i> (family)	Bamboo	Cut with a knife in foothills	Shoots boiled or used in curry
ปัยลือปัย pay-lepay	เลียบ ผักเหือด	<i>Ficus infectoria</i> Roxb.		Picked by hand in foothills	Shoots boiled with curry or eaten raw with chili sauce
ปูญิก punyik	กระเทียม	<i>Zingiber zerumbet</i>		Picked by hand in foothills and on beaches	Root eaten raw with chili sauce
ซื่อหิง sening	เหียง	<i>Achidendron jiringa</i> (Jack) I.C. Nielsen		Picked by hand in foothills	Raw shoots and fruit eaten with chili sauce
บูโตด butot	จิกเล	<i>Barringtonia asiatica</i> (L.) Kurz		Picked by hand on beaches	Shoots eaten raw or blanched and eaten with chili sauce
ลีกา lika	หูกวาง	<i>Terminalia catappa</i> L.	Sea almond	Picked by hand on beaches	Shoots blanched and eaten with chili sauce
ดุนด dunot	มะกอกป่า	<i>Spondias bipinnata</i>	Hog plum	Picked by hand in foothills and on beaches	Young leaves eaten with chili sauce
ปากู paku	ปรง			Cut with a knife in foothills and on beaches	Young leaves and young fruit boiled in coconut milk

75. It is common for the Urak Lawoi' to name these plants starting with the part they use: ปูโฮด (whole plant), ปูโจะ (shoots), ปูว้อย (fruit), or ปูมี (seed)
76. Some of the English and scientific names could not be determined.



Priya



To'de'



Kladi



Rebok



Pay-lepay



Panyik



Sening



Butot



Laka



Dunot



Paku

Urak Lawoi'	Thai	Scientific	English	Harvesting area and method	Parts eaten and preparation
กาเหาะ kane'	ชะมวง			Picked by hand in foothills	Young leaves boiled with meat
กีแร kirae	สวาด	<i>Caesalpinia bonduc</i> (L.) Roxb.		Cut with a knife on beaches	Young leaves blanched and eaten with chili sauce
ฉื่อแหฮ jenaeh	กาแยะ	<i>Callerya atropurpurea</i> (Wall.) A.M. Schot		Picked by hand in foothills	Young leaves boiled in coconut milk or eaten raw with chili sauce
มาจัก macak	มะม่วง	<i>Mangifera indica</i> L.	Mango	Picked by hand in foothills	Shoots eaten raw with chili sauce
ญามู jamu	มะม่วง หิมพานต์	<i>Anacardium occidentale</i> Linn.	Cashew nut	Picked by hand in foothills	Shoots eaten raw with chili sauce
ตาหต tahot	ถั่วคร้า ย่านไก่เตี้ย	<i>Canavalia rosea</i> (Sw.) DC.		Picked by hand on beaches	Young pods blanched and eaten with chili sauce or boiled with curry
วาว waw	กระแตไต่หิน	<i>Drynaria bonii</i> Christ		Picked by hand on rock cliffs by the sea	Young shoots stir-fried
รือคา rekha	ข่า	<i>Alphinia galangal</i> (L.) Willd.	Galangal	Dug with a spade/pick axe in various locations	Mature rhizome used for curry; young rhizome and plant used for curry paste, eaten as fresh vegetable or boiled and eaten with chili sauce
สะเดา sa'daw	สะเดา			Picked by hand or cut with a knife in various locations	Young leaves blanched and eaten with chili sauce
สราย sray	ตะไคร้			Cut with a knife in various locations	Stem used for curry
บาปี babi	ผักลิ้นห่าน	<i>Launaea sarmentosa</i> Sch. Bip. Ex O. Kze.		Picked by hand on the beach	Leaves and stems boiled or stir-fried



Kane'



Kirae



Jenaeh



Macak



Jannu



Tahot



Waw'



Rekha



Sa'ilew



Sray



Babi

Urak Lawoi'	Thai	Scientific	English	Harvesting area and method	Parts eaten and preparation
อาซั๊บ อาวะ asap awa'	กระเจี๊ยบ แดง	<i>Hibiscus sabdariffa</i>	Roselle	Picked by hand in various locations	Shoots boiled; fruit eaten fresh or as juice
บาลัก balak	กระถิน	<i>Leucaena leucocephala</i> (Lam.) de Wit	Leadtree	Picked by hand in various locations	Young shoots and young fruit eaten raw; only meat of old fruit eaten
ปีอะ pi a'	กระสัง	<i>Peperomia pellucida</i> Korth	Peperomia	Picked by hand in various locations	Plant eaten raw or blanched and eaten with chili sauce
กูแญะ kunyae'	ขมิ้น	<i>Curcuma spp.</i>	Turmeric	Dug with a spade or pickaxe in various locations	Rhizomes eaten
กายามูดี kaya mudi	มะเดื่อปล้อง	<i>Ficus hispida</i> L.f.		Picked by hand in various locations	Fruit eaten
นากา naka	ขหนู	<i>Artocarpus heterophyllus</i> Lam.	Jackfruit	Picked by hand in various locations	Fruit eaten
นูเห็ก nunek	ลูกเหรียง	<i>Parkia timoriana</i> (DC.) Merr.	Nitta sprout	Fallen fruit picked from the ground in various locations	Seeds eaten as a raw vegetable, blanched or stir-fried
ปาตัด patat	สะตอ			Cut with a knife or gathered with a stick at various locations	Shoots and seeds eaten raw
ลาตอ lato	สาหร่าย เม็ดพริก สาหร่าย พวงองุ่น			Picked by hand on exposed reefs	Eaten with chili sauce
มีญา miya	มะปริง			Picked by hand or cut with a knife on beaches	Fruit eaten
มูงาย mu ngay	มะรุ่ม			Cut with a knife in various locations	Young shoots and flower blanched and eaten with chili sauce; fruit boiled with or without coconut milk



Asap awa'



Balak'



Pi'a'



Kunyas'



Naga



Nimek



Patat



Lato



Miya'



Mu ngay'

Urak Lawoi'	Thai	Scientific	English	Harvesting area and method	Parts eaten and preparation
บากา baka	โกงกาง	<i>Rhizophora mucronata</i> Poir.	Red mangrove	Cut with a knife in mangrove forests	Shoots and young fruit eaten raw or blanched
Roots used as a starch to supplement rice					
ฮูบี่ฮารา hubi hara	หัวกลอยใหญ่	<i>Dioscorea hispida</i> Dennst. Var. <i>hispida</i>	Asiatic bitter yam	Dug with a crowbar or coconut shell in forests, foothills, and on beaches	Peeled, cut up, and soaked in water for a few days to remove the poison, then sun-dried; popular for making sweets
ฮูบี่ตาวี hubi tawi	มันสำปะหลัง	<i>Manihot esculenta</i> Crantz	Cassava	Cultivated plant dug with a piece of metal or pulled	Peeled, cut up, used as part of a meal or to make sweets
ฮูบี่ มาเนฮ hubi maneh	มันเทศ	<i>Ipomoea batatas</i> (L.) Lam.	Sweet potato	Cultivated plant dug with a crowbar or coconut shell	Boiled or grilled; popular with turtle curry
ลูกอย lukoy	มัน	<i>Dioscorea spp.</i>	Yam	Dug with a crowbar or coconut shell in forests and foothills	Peeled, cut up, and boiled with coconut milk
บิลัก และ กาโต๊ะ bilak and kado'	หัวมันล็ก	<i>Dioscorea alata</i> L.		Dug with a crowbar or spade in forests	Peeled, cut up, and boiled, sometimes in coconut milk, or grilled
ตวยอ tuyo	เท้ายายม่อม	<i>Tacca leontopetaloides</i> (L.) Kuntze		Dug with a pickaxe or spade on flat land close to the beach	Peeled and soaked, pureed and mixed with water; liquid filtered through cotton cloth and allowed to settle in three changes of water before drained and dried in sun to make flour



Baka



Hubi hara



Hubi tawi



Hubi maneh



Lukoy



Bilak



Tiyo

Appendix F

Plants Used Medicinally by the Urak Lawoi⁷⁷

Urak Lawoi'	Thai	Scientific	English	Use and treatment
ชุนาย หรือ ชื่อลู๋นัย selunay	สาบเสื่อ	<i>Chromolaena odoratum</i> (L.) R.M. King	Siam weed, bitter bush, devil weed	Leaves crushed and mixed with lime to apply to the head, neck, and body to treat asthma Leaves crushed and applied on fresh or infected wound
ลอลอ lolo	เต้าหลวง	<i>Macaranga gigantea</i> (Rchb.f. & Zoll.) Muell. Arg.		Sap from branch applied on oral sores
ตีมอน กายู timon kayu	มะละกอ	<i>Carica papaya</i> Linn.	Papaya, pawpaw, tree melon	Leaves crushed with coconut milk and drunk for fever and intestinal worms
นุ๋นัง nunang	น้อยหน้า	<i>Annona Squamosa</i> Linn.	Sugar apple, sweetsop	Shoots crushed and mixed with water and applied to the head to treat headache, fever in children
ลาลัก lalak	หญ้าคา	<i>Imperata cylindrical</i> (L.) P. Beauv.	Alang-alang	Tied around a snake bite, in combination with magic, to counteract the poison
จาปีก capik	ว่านหอยแครง หรือว่านแสง อาทิตย	<i>Haemanthus multiflorus</i> (Tratt.) Martyn		Leaves crushed with water and applied to the forehead to treat fever or cough
กาบู kabu	นุ๋น	<i>Ceiba pentandra</i> (L.) Gaertn.	White silk	Leaves crushed with water and applied to the forehead to treat fever
แฉะปือแฉะ jae' bejae'	ต้นดอกบานเย็น	<i>Mirabilis jalapa</i>	Four o'clock, marvel of Peru	Leaves crushed with water and applied to the forehead to treat fever or general unwellness
กีแร kirae	สวาด			Seeds crushed very fine, mixed with water, and blessed by a <i>to mor</i> before being applied to the abdomen or drunk to treat intestinal worms
กริ้งัก gri ngak	ชุมเห็ดเทศ		Gri ngak	Leaves and shoots pounded very fine and applied to treat skin conditions such as ringworm or liver spots

77. The list above is incomplete because not all plants could be identified.



Selinang



Lolo



Timon kayu



Nuring



Lalak



Capik



Kaba



Jau' bejau'



Kinse



Grit ngak

Urak Lawoi'	Thai	Scientific	English	Use and treatment
อาเกอ บูรีบู aker buribu	สังวาล พระอินทร์			Roots boiled and used to bathe to treat swelling
บาก็บ bakop	พลับพลึงทะเล			Leaves dried lightly over fire and applied to treat swelling
แนก นานะ naek nana'	ลูกใต้ใบ	<i>Phyllanthus amarus Schumach. & Thonn.</i>		Plants boiled with a little sugar and drunk to treat anemia
โทะโทะ tho' tho' (โพะโพะ) (pho' pho')	กะทกรก		Passiflora	Leaves mixed with lime and applied to the neck and abdomen to treat asthma
ฉามู กือลิก jamu kelik	ฝรั่ง	<i>Psidium guajava L.</i>	Guava	Leaves boiled with sugar to treat hemorrhoid
บะฮูย ba'yuy				Leaves mixed with salt and applied to snake bites
กาดง katong				Peel softened by rubbing against rock and applied to sore mouth
ซีนาย sinay				Peel mixed with salt and applied to toothache
กาโตย katoy	ชะพลู	<i>Piper sarmentosum</i>		Leaves and root eaten to reduce phlegm and increase appetite; used to make a tonic
ปีนังนูดอ pinang nuder	เต่าร้างแดง			Fruit used to treat centipede bite; root boiled and drunk as a tonic. The fruit is chewed as a substitute for betel and areca nuts, and the shoots eaten.
ฮิดะฮาดู hido' hatu	ไมยราพ	<i>Mimosa pudica L.</i>	Sensitive plant, shamedbush, Touch-me-not	Leaves pounded and applied to bruises, fresh and infected wounds
ลาโฮบ lahop	ละหุ่ง	<i>Ricinus communis L.</i>	Castor bean	Leaves dried over fire and applied to wounds



Aker huriba



Bakap



Nack nana'



Thu' Tho' (phu' phu')



Jamu kelik



Sinay



Katoy



Puang muket



Hidy' batu



Lahoy

Urak Lawoꞑ	Thai	Scientific	English	Use and treatment
กลาเม klame	กะลามะพร้าวตัวผู้ (ซีกที่มีจุด)	<i>Cocos nucifera</i> L. var. <i>nucifera</i>	Coconut shell (the half with holes)	Grilled and sat on for a few minutes to treat hemorrhoid
เลอติอเลอ ler-teler	ผักบุ้งทะเล	<i>Ipomoea pes-caprae</i>	Beach morning glory	Leaves pounded and applied to jellyfish sting
ฮาเกอเลอ leel-leo aker-ler-teler	รากผักบุ้งทะเล			Roots crushed and mixed with ฮาเกอบูริบู and water, drunk in ceremony to help people who have been poisoned
ฮาซัป asap	มะขาม		Tamarind	Mature leaves used to treat cough, loosen phlegm; fruit used as a laxative; mature seeds used to remove intestinal worms in children
ซีโตน seton	กระท้อน	<i>Sandoricum koetjape</i> (Burm.f.) Merr.	Sentul, santol, red sentol, yellow sentol	Leaves boiled for a bath to treat fever, skin diseases, diarrhea, and dysentery
ปูโจ๊ะ ปาลัย puco' palay	ยอดต้นปอ			Shoots dried over fire, finely pounded and mixed with water, blessed by a shaman and drunk by a new mother to help expel the placenta



Klame



Ler-teler



Asap



Seton

Appendix G

Favorite Urak Lawoi' Marine Foods

Favorite foods	Harvesting locations*	Harvesting methods*	Processing, preparation	Cooking methods*
Fish	Coral reefs, cracks and crevices of rocks	Hook and line, trap, spear	Scale, clean, salt, or dry	Deep-fry, boil, grill, fry
Crab	Coral reefs, cracks and crevices of rocks, hills by the sea	Caught by hand and with metal spear	Cut up or kept whole	Boil, then grill
Lobster	Coral reefs, cracks and crevices of rocks at low tide	Caught by hand diving or with a spear	Cut up or kept whole	Boil, grill, fry
<i>To nan (pling sai)</i>	Sandy beach at low tide	Dug out of the sand by hand	Rolled on cutting board to harden, skin and guts removed, washed in salt water, and cut up	<i>Yum</i> ,** eaten raw in chili paste
Bivalves or snails	Cracks and crevices of rocks, coral reefs at low tide	Collected using hook, knife, and/or metal scrape	Sometimes shelled	<i>Yum</i> ,** boil, grill, fry
Chiton	On rocks or in cracks and crevices at low tide	Gathered by hand	Shell and spine removed, cut up	<i>Yum</i> ,** dipped in chili paste
Oyster	On rocks or in cracks and crevices at low tide	Collected with a crowbar or metal tool	Shelled	<i>Yum</i> ,** pickled, raw
Giant clam	Coral reefs at low tide	Collected with a crowbar and knife	Shelled and toxic part removed (in the muscles between the shells), cut up	<i>Yum</i> ,** boil, fry
Turtle	Coral reefs and beach during nesting period	Spear, hook and by hand	Shelled, meat cut up	Boil, fry

* These are the main methods; others may occasionally be used.

**A typical Thai spicy salad, dressed usually with chili pepper, lime juice, and fish sauce.

Appendix H

Sea Life Used Medicinally by the Urak Lawoi'

Urak Lawoi'	Thai	Scientific	English	Use and treatment
กือต๊ับ บาดู ketap batu	ปูหินทะเล	<i>Charybdis erythroductyla</i> , <i>Charybdis hawaiiensis</i> , other <i>Charybdis</i> spp.	Red-legged swimming crab	Meat boiled and eaten to treat chicken pox
กือต๊ับ มาตา มีร์ฮึ kerap mata mirah	ปูตาแดง	<i>Eriphia sebana</i>	Red-eyed crab	
การึก หลี่ญา karak liya	ปะการังเขากวาง	<i>Acroporidae</i> (family)	Branch coral	Pieces boiled and drunk to treat kidney stones
อาเกอ เบอเฮอ aker berher	กัลปังหา	<i>Calcaxonia</i> (suborder)	Sea fan or gorgonian	Dried over fire, finely pounded, mixed with water and drunk 3 times daily to treat asthma, kidney stones, hemorrhoids, and other ailments
ตลึปัก หลามัจ tlipak glamai'	ปลิง ละหมาด	<i>Stichopus horrens</i> , <i>Stichopus noctivagus</i> , <i>Thelenota rubralineata</i>	Selenka's sea cucumber; none	Boiled and dried over fire to make a liquid and a balm; liquid mixed with warm water and applied to burns, cuts, wounds, or drunk to heal internal injuries; balm applied externally

Appendix I

Publications and Research on the Urak Lawoi' in English

1. Arunothai, Narumon, Supin Wongbusarakum, and Derek Elias. Forthcoming in 2007. *Bridging the gap between the rights and needs of indigenous communities and the management of protected areas: case studies from Thailand (The Moken and the Surin Islands National Park; and the Urak Lawoi and Tarutao National Park)* Report of UNESCO and NOAA co-funded project titled, "A Place for Indigenous Peoples Living in Thailand's Andaman Sea Marine Protected Areas".

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Often referred to as sea gypsies or sea nomads, the Urak Lawoi' are indigenous people and first inhabitants of the Adang Archipelago. As a people (*urak*) of the sea (*lawoi'*), their traditional culture and subsistence lifestyle developed out of close relationship with the sea and the coastal environment, centering on semi-nomadic food foraging practices and long-term harvest travels called *bagad* in the dry season.



Over the past few decades, the Urak Lawoi' have undergone rapid and drastic change as the Adang Archipelago was awarded national marine park status by Thailand, and as commercial fishing and tourism industries have intensified in the region. With mounting pressures to integrate into the global market economy, intensifying modernization and globalization, and the development of urban aspirations among the Urak Lawoi', their traditional culture is at a great risk of disintegrating and disappearing. The challenges they are facing afford important insights into the complexities of environmental and cultural conservation, and to the situation of indigenous and first peoples worldwide.

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