


navigating a new course

stories in community-based conservation in the pacific islands



TORY READ



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Cover photo:

A mother and daughter harvest clams in Fagaloa Bay in Uafato Conservation Area in Samoa.

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preface

The protection and sound management of our natural resources and biological diversity are essential components of countries' development aspirations, as well as a commitment under the global Convention on Biological Diversity. Experience has taught us that the protection of biodiversity will succeed only if it is part of an overall development strategy of poverty alleviation and sustainable livelihoods.

During the past decade the South Pacific Biodiversity Conservation Programme (SPBCP) has aimed to address this particular nexus, with the intention that the people, countries, species, ecosystems, and natural environment of the Pacific would be the direct beneficiaries.

In the Pacific, conservation is first and foremost about respecting communities' rights to the lands and natural resources on which they depend. SPBCP provided support to seventeen community-based conservation areas in twelve Pacific Island countries, covering an estimated total of 1.5 million hectares of land and marine areas. Most of the conserva-

tion areas encompass the best examples of particular ecosystems in the country and include threatened or endangered species.

The SPBCP was implemented by the United Nations Development Programme (UNDP), executed by the South Pacific Regional Environment Programme (SPREP), and funded by the Global Environment Facility (GEF) and the Australian Agency for International Development (AusAID). Our organizations are committed to the protection of the natural environment and have been pleased to support the efforts towards the conservation of biodiversity in the Pacific.

It is our sincere hope that the important experiences and lessons learned from the South Pacific Biodiversity Conservation Programme, positive as well as negative, will be useful and inspirational for communities and practitioners alike in the years to come, both in the Pacific and beyond. It is in this light that we share with you here a few stories that illustrate some of the experiences of the programme.

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introduction

When I took up the position of Programme Manager for South Pacific Biodiversity Conservation Programme (SPBCP) in 1991, I was under no illusion that it was going to be an easy task. I knew we had the technical skills within the region to establish and manage conservation areas, but I was uncertain of our ability to work effectively with the diverse people, languages, and cultures in communities throughout the twelve Pacific Island countries encompassed by the programme.

My concerns were not unfounded. My staff of three and I confronted unexpected social, cultural, and economic issues as we tried to facilitate country and community efforts to establish and manage a series of sustainable community-based conservation areas. We learned that reaching agreement in communities takes time. Historical rivalries among families within a community, as well as boundary disputes between neighbouring villages, often resulted in prolonged, tense, and difficult negotiations. We overcame these and other problems by learning new skills on the fly.

These obstacles have been mere bumps in the road in what was, overall, an enlightening and rewarding experience. Communities did resolve disputes. They created conservation areas and set up local committees to manage them. Some have successfully experimented with income-generating activities as alternatives to unsustainable resource use. One is saving a species. And others have had the strength to recognize their mistakes, go back to the drawing board, and start again.

Because there are as many ways to create conservation areas as there are communities, we hired a local full-time support officer for each conservation area project, to assist communities and liaise with government and other organizations. With the experience they gained working on SPBCP projects,

these support officers are a new breed of Pacific islander who can navigate two very different worlds— that of village issues and politics and that of government and donor requirements. They are all good managers of natural resources and of people, and they are a new asset to the Pacific.

Along with the rest of us, the support officers have learned a great deal from the communities they have worked with. I share their pride and that of community members in being part of SPBCP.

Managing the programme has opened my eyes to the multitude of social, cultural, and economic issues that are inherently linked to protecting natural resources that communities depend on for their survival. Striking a balance between meeting community needs and conserving natural resources is a challenge that we will continue to face as we find our way to integrating conservation and development.

SPBCP's focus on resource owners and users enabled the very people who are the key to successful conservation to assume responsibility for making wise resource management decisions. The experience of working with local communities, a sector that we have ignored for far too long, will be difficult to forget.

The long-term impact of SPBCP will depend on how well communities carry on without support from the programme. It will also depend on how well government and others apply the lessons learned in the SPBCP pilot projects. For community-based conservation areas to work, we must start with communities. We must all work together to build their capacity to manage and use their resources in a sustainable and profitable manner.

Joe Reti
Former Programme Manager,
South Pacific Biodiversity Conservation Programme

Fishing nets hang at the dock in Ibobang village in Ngaremeduu Conservation Area in Palau. Many people in the Pacific Islands live off the land and the sea.



people and resources in the pacific islands

an overview

the pacific region

The Pacific Ocean is the largest geographic feature on the planet, blanketing a third of the Earth's surface. Scattered across this vast sea are more than 30,000 islands, divided into 22 countries and territories that stretch from Papua New Guinea in the west to Easter Island in the east.

The Pacific region features coral reefs, deep ocean trenches, undersea mountain ranges, and many ecosystems that are rare and unique on Earth. Islands are either the volcanic peaks of underwater mountains, or coral atolls. Land-based Pacific ecosystems tend to be small and distinctive, a result of most of the islands' tiny size. Geographic isolation has led to the evolution of numerous endemic species.

Small populations and limited natural ranges mean that plant and animal species are vulnerable in ways that species on large land masses are not. The islands are defenseless against devastating natural disasters, including cyclones and volcanic eruptions. Generating huge waves, torrential rains, and winds up to 200 kilometers per hour, a big cyclone can wipe out an entire ecosystem in a few hours. Climate change is of major concern for the smaller islands, as sea levels will inevitably rise and engulf mangroves and flood forests and farmlands.

pacific peoples

All but the furthest flung islands of the Pacific were settled by 200 B.C., by Asians, Austronesians, and Melanesians. Spanish and Dutch explorers came in the 16th and 17th centuries, followed by whalers, traders, and missionaries in the 1800s. European and American colonists arrived shortly after.

The Pacific Ocean covers a third of the Earth's surface and has more than 30,000 islands inhabited by 6 million people.

Although a few foreign-controlled territories remain, most of the Pacific Islands have now attained their independence.

Across the archipelago, traditional spiritual beliefs and practices emphasize a close connection between people and their environment. Three distinct ethnic groups inhabit the Pacific Islands: Polynesian, Melanesian, and Micronesian, but this simple division belies the region's diversity. There are as many cultures as there are languages, and the range of languages is extraordinary. Vanuatu alone has more than 100 language groups.

For thousands of years, Pacific peoples have lived a relatively sustainable way of life. Species and habitat recovery are not new concepts to them. Many cultures traditionally applied restrictions on the use of key resources as they became scarce, then lifted these restrictions when the resource replenished. What's new are shifting community priorities and larger-scale, multi-stakeholder efforts to conserve and protect natural resources.

a mix of land ownership systems

Throughout Polynesia and Melanesia, local people own most land under centuries-old systems of customary tenure. Extended families hold title to the land, and entire communities are involved in making decisions regarding how land and resources are used. Marriages between people from different communities have been common for years. As a result, land inheritance claims quickly get confusing. The waters are further muddied when relatives working abroad come home to look for a place to settle down. Local land disputes are an animated feature of Pacific Island life. In major towns, there's almost always a queue at land court.

Although some countries in Micronesia still have customary land tenure systems in place, a combination of individual



and government land ownership is more the rule. Successive colonial administrations have eroded customary tenure on many Micronesian islands. Residents of recently independent nations frequently find themselves in court, arguing over land that their new island governments are at last attempting to return to the original owners or their descendants.

economies in transition

A subsistence economy still dominates most Pacific Island countries, but populations are growing rapidly and putting increasing pressure on forests and seas. Pacific Island populations, currently totaling 6 million people, are expected to double in the next 20 years.

Economies are in transition. Influenced by years of contact with industrialized nations, Pacific islanders want a higher standard of living. They are increasingly attracted to the idea of finding paid work in urban areas, and rural communities are slowly shifting to a cash-based life. Landowners face ever-increasing pressure to convert their natural resources into quick cash and become players in the cash economy. Island economies are fragile and depend heavily on international aid.

the greatest threat

Our own human behavior poses the greatest threat to biodiversity conservation in the Pacific region. Invasive species, introduced by visitors and locals in transit, are displacing and killing off indigenous ones. Large-scale exploitation by commercial fishing operations and foreign logging companies is destroying habitat at a rapid rate, threatening the livelihoods of subsistence and artisanal fishers and farmers. Quick-cash buyouts of community resources have led to a devastating loss of native forests in the last two decades.

Commercial logging has also caused silting in community water supplies and damaged coastal and marine ecosystems downstream, all the way to the reefs. In addition, the Pacific has experienced a large number of nuclear explosions. Although atmospheric testing stopped in 1974, underground

In the last 20 years, commercial logging operations have destroyed most native forests across the Pacific. Local landowners find quick-cash buyouts hard to resist.

testing continued until 1996. As a result of nuclear testing, several Pacific Islands are uninhabitable.

legal frameworks, institutional capacity

A lack of environmental policy and conservation legislation across the region undermines local efforts to conserve natural resources. Many countries have no protected-area legislation whatsoever. Typically, conservation areas are not legally recognized entities, and there are no mechanisms in place to back up resource management rules that communities establish.

Institutional capacity is also weak. In the early 1990s, there were fewer than 30 trained park rangers in the entire Pacific region. Government environmental departments are often tiny, consisting at times of just a single officer in charge of environmental projects for an entire country.

the national park model proved unsuitable

In the 1970s and 80s, Pacific Island governments attempted to establish national parks and nature preserves to protect areas of high biodiversity, with little success. The national park model granted recreational access, but it denied local people the right to use the resources. Throughout most of the Pacific, landowners still depend on natural resources for their livelihood, and strict protective rules denying resource use didn't work.

In many Pacific Island countries, local communities own land under customary systems, and most governments explicitly recognize and legally protect customary tenure. In these cases, governments have no choice but to cooperate with local land-owning communities to conserve biodiversity. Communities must drive decision-making about resource use, and they have to learn to balance use with conservation.

turning toward community-based conservation

At the time of the 1992 Rio Earth Summit (United Nations Conference on Environment and Development), there were no effectively protected areas in the Pacific outside of Hawaii. The Rio Summit had a significant impact on Pacific region governments and conservation groups, in terms of raising awareness about conservation and development issues.

Inspired by Rio and recognizing the shortcomings of earlier approaches, Pacific countries decided to try a different strategy.

They created the South Pacific Biodiversity Conservation Programme (SPBCP) in 1992 to experiment with community-based conservation as an alternative to the inflexible national park model. Their aim was to conserve biodiversity while encouraging sustainable resource use.

Eligible countries proposed candidate conservation areas to the South Pacific Regional Environment Programme (SPREP), which managed SPBCP. An inter-governmental body based in Apia, Samoa, SPREP represents 22 nations and territories of the Pacific, plus Australia, New Zealand, France, and the United States, and administers many regional environmental initiatives.

Once a project was approved, the community involved appointed a conservation area committee that was supposed to represent the viewpoints and interests of people with a stake in the resources. The programme funded a qualified national of the host country to live in the village and assist its residents as conservation area support officer. The intent was that the conservation area projects be financially self-sustaining by the end of the funding period.

spbcP conservation area pilot projects

By late 1997, 12 countries had earmarked 17 community-based conservation areas (see map, page 8), with the dual aims of conserving biodiversity and encouraging sustainable use of natural resources, with the local community landowners in the driver's seat.

SPBCP conservation areas are incredibly diverse. They range in size from 155 to 100,000 hectares and cover an array of marine and terrestrial ecosystems, including coral reefs, lagoons, bays, mangrove swamps, rivers, grasslands, and lowland, mountain, and cloud forests, as indicated in Table 1. Threats run the gamut from small-scale over-harvesting to industrial logging and commercial fishing.

As the programme progressed, experience on the ground suggested that communities needed alternative income-generating activities to help decrease their reliance on their natural resources. As a result, training in sustainable, resource-based businesses became part of the programme. After two extensions, SPBCP ended in 2001.

Alfonso Ngirngotel of Ngatpang village in Palau harvests clams from the bottom of a mangrove channel.



biodiversity conservation in the pacific today

The Pacific region has come a long way since Rio. There are now some 225 protected areas in the Pacific, including 17 community-based conservation areas supported by the programme. This is an impressive achievement, but it is only a beginning. These areas do not yet include a representative sample of all the important ecosystems in the region.

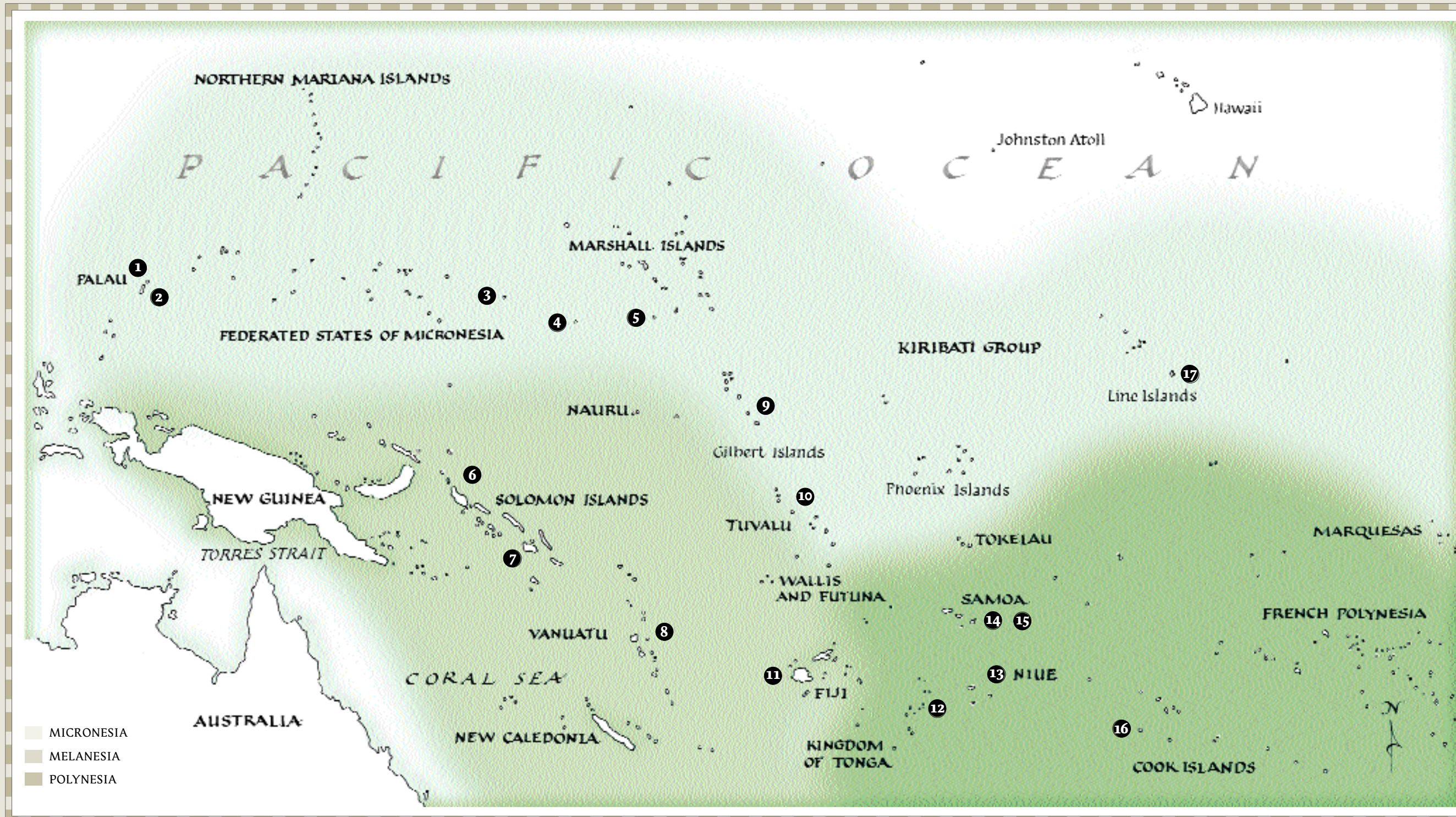
Nearly all Pacific Island countries have ratified the United Nations Convention on Biological Diversity, drafted at the Rio Earth Summit. This convention includes commitments to conserve biodiversity, support sustainable resource use, and ensure fair and equitable sharing of resource-derived benefits. Governments across the Pacific region are currently preparing national environmental management strategies, which will include strategic action plans for biodiversity conservation, as required by the convention. Community-based conservation, its profile raised through a decade of hard work via SPBCP, will surely be a component of these action plans.

What follows are stories about five different community-based conservation area pilot projects created with support from SPBCP. In the first story, three clans work together to save a bird species in the Cook Islands. In the second, a project in Samoa builds on strong existing village institutions — the council of chiefs and the church — to raise awareness about conservation. In the third story, two villages resolve a long-standing feud to protect the last remaining alluvial and limestone forest in Vanuatu. In the fourth, dedicated community leaders learn from their mistakes and make a new plan to reinvigorate their conservation area project in Kosrae, one of the four Federated States of Micronesia. In the last story, three states collaborate with communities to overcome labyrinthine jurisdictional issues and conserve an important bay in Palau.

These stories provide glimpses of community life and conservation efforts in five different Pacific Island countries, and they reveal some of the complexities and the potential triumphs of pursuing conservation from the bottom up. A final section sums up the most important messages for future conservation efforts.

Susan and John Brown Palo (right) and their children Roy, Evelyn, and Asnet plant peppers in one of their forest gardens in Vatthe Conservation Area in Vanuatu. The Palos use their gardens to meet daily needs and to make money at the market in Luganville, two hours away by truck.





***spbc* conservation area pilot projects**

- 1 Ngaremeduu CA (Palau)
- 2 Rock Islands CA (Palau)
- 3 Pohnpei CA (F.S.M.)
- 4 Utwe-Walung CA (F.S.M.)
- 5 Jaluit Atoll CA (Marshall Islands)
- 6 Arnavon CA (Solomon Islands)
- 7 Komarindi CA (Solomon Islands)
- 8 Vatthe CA (Vanuatu)
- 9 North Tarawa CA (Kiribati)
- 10 Funafuti CA (Tuvalu)
- 11 Koroyanitu CA (Fiji)
- 12 Ha'apai CA (Tonga)
- 13 Huvalu CA (Niue)
- 14 Sa'anapu-Sataoa CA (Samoa)
- 15 Uafato CA (Samoa)
- 16 Takitumu CA (Cook Islands)
- 17 Kiritimati CA (Kiribati)

spbcpr conservation area pilot projects

CONSERVATION AREA, COUNTRY	ECOSYSTEMS ENCOMPASSED	SPECIES/FEATURES OF NOTE	SIZE	LAND OWNERSHIP	HOW PEOPLE USE THE RESOURCE	THREATS TO THE RESOURCE
POLYNESIA						
Takitumu Conservation Area, Cook Islands	Mountain forest	Flycatcher	155 hectares	Customary	Not significant	Introduced ship rats
Huvalu Forest Conservation Area, Niue	Lowland rainforest	Coconut crabs, fruit bats	6,029 hectares	Customary	Coconut oil production, subsistence harvesting	Declining human population (no one to manage the CA)
Sa'anapu-Sataoa Conservation Area, Samoa	Coral reefs, lagoon, coastal swamps, mangroves	Mangroves, mangrove crabs, green turtles, mud crabs	75 hectares, no formal boundaries	Customary	Subsistence and cash harvesting	Mangrove clearing, dynamite and chemical fishing
Uafato Conservation Area, Samoa	Coral reefs, lagoon, mangroves, rivers, lowland rainforest	Ifelele tree	1,300 hectares	Customary	Tree harvesting for handicraft carving, subsistence fishing and farming	Over-harvesting of ifelele trees for carving
Ha'apai Islands Conservation Area, Tonga	Extensive coral reefs, lagoons, some wetlands, lowland rainforest	130 km barrier reef	12,100 hectares	Crown; use rights granted to individuals	Farming and fishing for subsistence and cash	Over-harvesting of marine resources, logging to create more gardens, free-ranging pigs
Funafuti Conservation Area, Tuvalu	Coral reefs, lagoons, islets, tropical broad-leafed forest	Giant clams, coconut crabs, hawksbill turtles	3,301 hectares	Mostly crown, some individually owned	Uninhabited; closed to resource use	Climate change, poaching, pollution from nearby population center
MELANESIA						
Koroyanitu Conservation Area, Fiji	Mountain and cloud forest, rivers	Peregrine falcon	3,500 hectares	Customary	Subsistence use—medicine, food, fuel, building materials	Commercial logging, mining, forest clearing for gardens, fire
Komarindi Conservation Area, Solomon Islands	Rivers, lowland forest, mountain forest	Endangered birds, butterflies	19,300 hectares, no formal boundaries	Customary	Subsistence use—medicine, food, fuel, building materials	Communities are scattered and don't work together well, ethnic tension
Arnavon Islands Conservation Area, Solomon Islands	Coral reefs, lagoons, 3 islands, mangroves, beach forest, nesting habitat	Megapodes, hawksbill turtle	8,703 hectares	Customary	Subsistence and cash fishing, megapode egg harvesting	Poaching of marine resources, ethnic tension
Vatthe Conservation Area, Vanuatu	Rivers, alluvial limestone forest	Megapodes, ifelele	3,700 hectares	Customary	Subsistence farming and fishing	Commercial logging, invasive big leaf vine, forest clearing for gardens
MICRONESIA						
Utwe-Walung Conservation Area, Kosrae, FSM	Coral reefs, lagoons, coastal swamps, mangroves, rivers, lowland forest	Mangroves, ka trees	1,850 hectares, no formal boundaries	Individual and government	Subsistence and cash fishing and farming, coastal development	Uncontrolled development on private land, destructive fishing, road construction
Pohnpei Conservation Area, Pohnpei, FSM	Coastal swamps, mangroves, rivers, palm forest, mountain forest	29 bird species, fruit bat	5,100 hectares	Government	Closed to resource use	Illegal farming, forest destruction to make kava gardens
North Tarawa Conservation Area, Kiribati	Coral reefs, lagoon, coastal swamps, mangroves	Bonefish, sea cucumbers	5,652 hectares	Customary; open access in marine area	Subsistence and cash fishing, reef gleaning	Over-harvesting by commercial fishermen from communities outside the CA
Kiritimati Conservation Area, Kiribati	Coral reefs, lagoons, scrub forest, grassland	40 seabird species, 18 nesting seabird species	52,370 hectares	Government; open access in marine area	Copra production, gardening for cash, fishing for export	Poaching of birds and eggs, cars and new causeways, introduced feral cats and ship rats
Jaluit Atoll Conservation Area, Marshall Islands	Coral reef, lagoon, islets, some mangrove	Giant clams, turtles, pearl oysters	70,100 hectares	Customary	Subsistence and cash fishing, copra production	Over-harvesting of marine resources
Rock Islands Conservation Area, Palau	Coral reefs, lagoons, limestone islands, marine lakes, lowland forest, some mangroves	Hawksbill sea turtle, Micronesian megapode, dugong, crocodile, 181 species of coral	100,035 hectares	Government	Marine tourism, research, subsistence and commercial fishing and reef gleaning	Increasing numbers of tourists, waste problems, over-harvesting of reef fish
Ngaremeduu Conservation Area, Palau	Coral reefs, lagoon, mangroves, bay, rivers, some upland forest	Dugong, crocodile, mangroves, 300 species of reef fish	12,960 hectares	Government	Subsistence and cash fishing, mangrove crab harvesting	Road construction, new development pending in uplands



Takitumu Conservation Area tour guide Mataiti Mataiti leads a group of tourists and local kakerori fans on a nature walk through the conservation area. “I’ve been interested in conservation since I was a kid,” he said. “It’s what my grandmother taught me.”



warrior bird, warrior people

three clans cooperate and save a species in the cook islands

In 1989, the Rarotonga Flycatcher was fighting for its life, its numbers reduced to a mere 29. Today, 241 of these tiny orange and grey birds are alive and well in Takitumu Conservation Area on Rarotonga, the largest of the Cook Islands. Three landowning clans — the Kainuku, Karika, and Manavaroa families — are working together to save the bird, known locally as kakerori.

“In the late 1980s, the three extended families had no idea that a critically endangered bird found nowhere else in the world existed in their forests,” said Ian Karika-Wilmott, 51, conservation area support officer. “Most had never heard of biodiversity or ecotourism, and almost all believed that when the government said conservation, it meant taking away their rights to their land.”

a wee warrior

Weighing in at around 22 grams, each bird adds up to barely a mouthful. “Kakerori is a little, wee bird. You can hold it in your hand, it’s so small,” said Margaret Karika, 82, high chief of the Karika clan. Kakerori (*pomarea dimidiata*) is not threatened by human hunters, but by an introduced predator, the ship rat, which first made its appearance in the Cook Islands in the mid-1800s.

In spite of its size, kakerori is a warrior when it comes to protecting its young. “When a rat comes into its nest, this feisty little bird stays and fights to the death,” said Ian. Building its nests out of moss under the forest canopy in trees

over valley streams, kakerori lays one to two eggs a year. About half survive.

The more mature birds, transformed to grey at around age four, tend to stay in their own territory. The bright orange youngsters are insatiably inquisitive, and they routinely soar up to the highest ridges to explore their world.

a unique place and its pressures

Kakerori has a discerning taste for habitat. Takitumu Conservation Area (Takitumu) lies approximately 800 meters from the main coastal road and extends over 155 hectares of forested ridges and valleys. Ferns carpet the inland forest, accompanied by Polynesian and Noded ground orchids and Rarotongan melicopes. Takitumu includes the headwaters of two major streams and basins of a third. Located on the wettest part of the island, the conservation area provides most of the island’s drinking water.

Although the area has been uninhabited by humans since just after missionaries arrived in 1823, kakerori has lots of company. At dusk, the ridge-top hums with the chatter of Rarotonga starlings, fruit doves, long-tailed cuckoos, and white-tailed tropic birds. From the sea, white terns and brown noddies dart about and join the conversation.

This bird haven is nestled in the southeastern hills of the bustling, cosmopolitan island of Rarotonga. The Cook Islands’ seat of government and home to more than half of the country’s

Above: The Rarotonga flycatcher (*pomarea dimidiata*) is one of the few species in the world to have improved its conservation status in the past decade. Three clans are working together to save the bird in the Cook Islands.

19,000 people, Rarotonga covers only 67 square kilometers. A circle road skirts a white-sand coast studded with palm trees, every tourist's fantasy of Polynesia. Tourism is, in fact, Rarotonga's main industry. Last year, 75,000 visitors came to forget their troubles in the Cook Islands. Tourists largely support Rarotonga's cash-based economy, but, as a result, adequate water supply and waste management are ongoing national issues.

In Avarua, Rarotonga's main town, mopeds buzz and sputter day and night. Visitors can choose from more than 30 tourist accommodations, ranging from small private beach bungalows to air-conditioned hotels with pools and hundreds of rooms. At their fingertips are cappuccinos, pasta, cell phones, internet cafes, T-shirts, sunglasses, CDs, Polynesian dancing, disco, karaoke, and two giant supermarkets.

old clans, new tools

Beneath the modern veneer of mowed lawns, abundant nightlife, and espresso, the clan system is rock solid. Each clan has a high chief, and extended families gather regularly to discuss issues. Decisions are by consensus, and reaching agreement takes time.

Basic land distribution hasn't changed much since the Maori first arrived 1,400 years ago. There are six original clans

Every Saturday, locals and tourists flock to Punanga Nui outdoor market in Avarua to buy produce, local foods, and handicrafts. Kapiri Tere, wife of a conservation area committee member, sells watermelon and vegetables harvested from her farm lands.

who still honor the land divisions established in these early days. "Families don't get along all the time here in Rarotonga," said Vavia Vavia of Cook Islands Environment Service, the government department responsible for environmental affairs. "Land issues are the biggest points of conflict. The preferred way to resolve disputes is through family meetings, but when this fails, we take our disputes to land court."

"Like our ancestors, we still regularly do battle over our land," said support officer Ian Karika-Wilmott. "The difference is that now we do battle in the courts." Each land dispute is an intricate maze of history and relationships, and it's impressive that three clans have decided to join forces to save kakerori.

Takitumu Conservation Area, established in 1996, followed and built on an existing government program, the Kakerori Recovery Project, which started in 1987. At that time, the Environment Service was happy just to get permission from the clans to do species recovery on the land. Intensive rat baiting began in 1989, spearheaded by Ed Saul, a New Zealander who is so devoted to kakerori he has come to Rarotonga to lay rat bait for 13 years in a row.

an opportunity to make money and save the bird, too

It wasn't until the project became a candidate for SPBCP support that the government began to seek active landowner participation from the families. "The landowners were suspicious at first," said Anna Tiraa, the first support officer for the conservation area. "Government doesn't have a great track record in terms of the way it's communicated with landowners here in Rarotonga. Their first reaction was, well, if it's a nature preserve, if it's a conservation area, that means we can't use it any more."

Takitumu support officer Ian Karika-Wilmott gets interviewed by Channel 1, Rarotonga's first and only television station, for a story about an environmental issue. Channel 1 did its first broadcast in 1989.





Although Takitumu Conservation Area didn't fit many of SPBCP's criteria for site selection, the review panel was flexible and embraced the project because it promised to save an endangered species.

In 1996, after a year of meetings and discussions, the families took over project management and formed the conservation area committee. It's the first time the government has ever turned a project over to landowners. Each of the three clans chose two representatives to serve on what Ian likens to a conservation area board of directors.

"We questioned it at the beginning. Why should we care about this little bird?" said Philomena Williams, current chair of the conservation area committee overseeing Takitumu. "Then we realized we might be able to make some money and save the bird, too."

It's unusual for three families to collaborate like this in Rarotonga. "Normally, when it concerns land, we never come together here," said Tom Daniels, member of the conservation area committee. "The chiefs cling to the land; but to preserve this little bird, we agreed to agree. It's a milestone."

Family members occasionally complain that they aren't being kept informed. "I objected to the conservation area right from the start," said Elizabeth Wind, 72. "Just leave the bird over there for the Lord to take care of. Furthermore, I don't know where the money goes." These kinds of complaints usually brew for a while until the family calls its conservation area representatives to account in a family meeting. Ian, the support officer, attends these meetings, too, because he has ancestors from all three families, and people listen to him.

local involvement and benefits lead to self reliance

Like most people on Rarotonga, the Kainuku, Karika, and Manavaroa gave up subsistence farming more than half a century ago. Conservation area committee members are no exception: Ben is a planter, Tangi sells cars and appliances, Papa Kapu

Papa Kapu Joseph (left) and Tom Daniels greet Ben Tamariki at a quarterly meeting of the conservation area committee, composed of representatives from the three clans that own and manage Takitumu Conservation Area.



and Tom are retired, and Philomena is a government receptionist. Ian works half-time for the conservation area and half-time in construction.

"We are the support officer's boss, but he does all the work," joked committee member Tom Daniels. The support officer is in charge of fundraising and day-to-day management, but the committee makes all conservation area decisions. At a recent quarterly meeting, committee members discussed conservation area earnings and expenses and the financial reports showed that profits from Takitumu's nature walk business had doubled.

"I've developed a sense of pride," said Papa Kapu Joseph, 79, committee elder. "Even though the big funding has run out, this bird has become an attraction for tourists, and we are getting some income and a substantial amount of attention."

expanding habitat and reclaiming history

The most important task in the conservation area is saving the bird. To do this, staff and volunteers band new birds and conduct a bird census every August. Then, while the birds breed

September through December, project staff stock rat baiting stations on a weekly basis along trails that snake through the conservation area.

Because the growing bird population is fragile – one severe cyclone could take out the entire species – the conservation area committee decided to start a relocation programme. “The first time I brought the relocation idea to the committee, it got shot down in flames,” said Ian. “Initially, even I hesitated to relocate the birds, because having a second site would make our birds less rare. Kakerori is making Takitumu famous. In the end, though, we decided to do what’s best for the bird.”

Last year, the clans moved 10 birds to Atiu, a small island of less than 1,000 people located 200 kilometers northeast of Rarotonga. At least four have survived, and 10 more birds will make the journey this year. “I went to Atiu Island with the first group of birds,” said Margaret Karika. “After landing at the airport, we went with the chief and a group of landowners to an inland lake. We said a prayer, and we set the birds free.”

“We believe that our ancestors brought the bird to Rarotonga from the Marquesas around the 10th century,” said Tangaroa Teamaru, official keeper of the Kainuku family’s genealogy. “By spreading the birds out, we know the birds will live. If something goes wrong here, we can go over to Atiu and bring some of them back.”

The other main activity in the conservation area is a well-run nature walk and bird-watching venture. Rarotonga is an ideal place to start an ecotourism operation, because the island is already a popular tourist destination, and locals are skilled business people. Tested in 1997, the nature tours got into full swing in 1998. Although the business can’t pay all the bills, income from the nature walks and souvenir shop is helping Takitumu stay afloat. Committee members have just decided to add an “adopt-a-nest” program to raise additional funds, and they’ve given the support officer and Mataiti Mataiti, the conservation area tour guide, the go-ahead to design a self-guided tour in response to market demand.

a challenge and a compromise

The committee and conservation area staff have had their share of tense moments. One donor requirement in particular created friction. Committee members strongly objected to the idea

of working on the project for free. “In Rarotonga, people get paid a sitting fee for committee work,” said Ian. “In a cash-based economy, it’s unreasonable to expect people to take on so much responsibility for free. They are making decisions on behalf of their entire extended families, and if they make a decision that people don’t agree with, they can get in a lot of trouble.”

“Here we were with this big yearly budget, and committee members were putting in a lot of time trying to figure out how to manage this project, and getting no compensation for it,” said Anna Tiraa, the conservation area support officer from 1996 to 1999. “Of course they got miffed.”

Committee members almost mutinied, but Ian and Anna managed to get approval to give them the money that was budgeted for meeting refreshments and travel allowances in lieu of a sitting fee. Conservation area committee members now get a small fee for each meeting they attend.

the conservation area produces results

The conservation area project changed Ian Karika-Wilmott’s life. “I’m in construction, and I had always viewed environmentalists as a nuisance to development,” he said. “It’s ironic, because I’ve ended up being one myself.” At Trader Jack’s, a popular Friday night watering hole for tourists and locals alike, Ian’s construction buddies tease him about being a “tree hugger” over a raucous round of mixed drinks, and he laughs along with the joke.

“Before, the government did all environment work,” said Anna. “Now, for the first time, we have enthusiastic and educated people out there working for the environment who are coming up outside of government channels. They are part of a new breed of environmental warriors. When citizens see these regular guys on television, guys like themselves, they take notice.”

Anna, the project’s first support officer, is herself an environmental consultant and has worked on a number of regional environment programmes. She also serves as president of Taporoporoanga Ipukarea Society, a local environmental organization.

Takitumu Conservation Area’s success has prompted active interest from other places in the Cook Islands. Residents of both Mangaia and Mitiaro Islands have visited Takitumu to get

Margaret Karika, high chief of the Karika clan, leaves Cook Islands Christian Church after Sunday service. “Before the missionaries, no women could hold titles,” said Tupe Short, a member of the Kainuku family. “The missionaries said, if the head of England can be a woman, then a woman can be high chief of a family here in Rarotonga.”



ideas for protecting their own endemic species, and the Cook Islands Tourism Department frequently uses Takitumu's nature walk and bird-watching business as a case study in its ecotourism workshops.

looking ahead

Despite cutbacks since SPBCP ended, new funding is trickling in. The Environment Service awarded the project NZ\$25,000 from the country's innovative Environmental Protection Fund. Accumulated each year from a portion of visitors' departure tax, this fund supports environmental projects in the Cook Islands. More recently, the New Zealand Overseas Development Agency's Pacific Initiatives for the Environment has committed to funding some project staff salaries for the next three years.

In the office, the support officer is busy completing the paperwork to establish both a non-government organization (NGO) and a trust for Takitumu Conservation Area. "Part of the reason we want to form a trust is it gives individual donors confidence that we're not gonna just stuff the money in our pockets," said Ian. NGO status will also make the conservation area eligible for direct grants from international foundations.

In the field, Takitumu's size is becoming a limitation as the kakerori population reaches saturation point. "We have a healthy growing bird population," said Ian. "The birds have started to migrate out, only to get nailed by ship rats once they get out of the rat bait area." Kakerori is only halfway to the 500 birds required to sustain the species, so Ian is asking all three families to give more land to expand the conservation area.

"The real success will be measured if we can keep the conservation area going without SPBCP," he said. "The bottom line is that we keep up the rat baiting and keep the birds alive and multiplying. One thing's for sure, I'm in it for the long haul."

School children listen to a talk about kakerori, the day before their field trip to see the bird at Takitumu. Ever the strategist, the support officer is already looking for conservation area leaders in the next generation.





ancestral ways, modern voices

the samoan path to conservation

“Once upon a time, millions of years ago, there were no human beings or animals or trees on earth. The god Tagaloa was the supreme being, and he lived in the ninth heaven above Uafato village. Eventually, Tagaloa decided to begin his creation. He made Papa Tu (standing rock) and Papa Nofo (sitting rock). The god blessed them and said to them, “multiply.” They had a son, named Eleele (soil). Tagaloa favoured that son, and he renamed him Moa, the center of the universe. Some people in Uafato believe this is where the word Samoa comes from. Everything that lives upon Moa is Sa, or sacred, the god Tagaloa said, including animals, trees, and the land itself. All forms of violation are forbidden.”

—Ioane Etuale, support officer, Uafato Conservation Area

Just before dawn on Sunday morning in the traditional Samoan village of Uafato, young Chief Ataiti Lo’i and his family load their ground ovens with the Sunday meal they’ll enjoy later in the day. Ioane, a strong and intense man of 31 adorned with an intricate hip-to-knee tattoo, throws himself into the preparations. It’s part of his style as conservation area support officer to pitch in around the village. The Sa gong sounds as day breaks, marking the beginning of the Sabbath. Chief Lo’i turns his attention to church, dressing in a pressed white collar shirt and suit coat and a starched white lava lava (a long, wrap-around cloth) to match. A brilliant red necktie is the finishing touch.

While the women reach for demure white dresses and flamboyant woven hats, the kids head off to Sunday school. Ancient origin stories and Christianity are equally important in Uafato.

uafato conservation area

Located in a remote part of the rugged northeast coast of Upolu Island in Samoa, Uafato and its environs are in many ways a natural-born conservation area. Uafato Conservation Area is habitat to 230 humans and numerous bird species, and it includes Fagaloa Bay and approximately 1,300 hectares of forestlands. “Uafato has probably the last intact forest we will

Opposite: The foreground forest, Fagaloa Bay, and the cliffs of Tagaloa’s ninth heaven are all part of Uafato Conservation Area in Samoa. The conservation area is habitat for 230 people, two varieties of bat, and 22 bird species, including the endangered manumea, or tooth-billed pigeon.

Above: After the first of three Sunday services at Congregational Christian Church of Samoa in Uafato, women head home to change into casual clothes for the main meal of the day, prepared in ground ovens lined with hot rocks.

ever see here,” said Joe Reti, former programme manager for SPBCP. “Logging and cyclones have pretty much devastated the rest of Samoa’s forests.”

From Samoa’s capital city of Apia, reaching the village of Uafato requires two hours, a four-wheel drive vehicle, and a strong back. “The difficulty of the access has discouraged loggers,” said Joe Reti. “Their only way to get out forest products is by helicopter, and ifelele is very heavy.” The rutted road has also discouraged villagers from finding a market for the bay’s sea life.

The Uafato region is geologically one of the oldest in Samoa. Volcanic in origin, the verdant landscape cascades down steep slopes from sharp peaks, brinking at rock cliffs that drop more than 500 meters to the sea below. Uafato’s forest nurtures the country’s largest remaining stands of ifelele (intsia bijuga), a dark timber hardwood used by local people for carving kava bowls, war clubs, and walking staffs.

“The forest is important for the birds,” said Sina, a chief’s wife. “They find shelter and food there. It also provides us with our water supply.” The forest is inhabited by two types of bats and twenty-two bird species, including the endangered manumea, or tooth-billed pigeon. Out in Fagaloa Bay, the lagoon and the coral reefs are Uafato’s long-time fishing grounds.

traditional ways and spiritual beliefs

Ancestral ways and Christianity have both played important roles in Uafato’s conservation story. The pastor and the high chief are the two most powerful and respected men in the community. The pastor chairs the conservation area committee. The other five members are chiefs who sit on the traditional village council, headed by the high chief.

The ages-old chief system still guides and rules the village. Extended families grant chiefly titles to their men based on the merit of their deeds and actions. These chiefs represent the families on the council of chiefs, Uafato’s official decision-making body. Extended families own ancestral lands, and the

Ailoli Sosa works on a kava bowl to sell at the Apia handicraft market. Made from the root of a variety of pepper plant, kava is served on all formal occasions in Samoa. Carvers can make more money in three days of carving than they could ever make working a job in the city.





By providing fencing material to contain domestic pigs and encouraging a pandanus planting competition, the project helped the Uafato women's committee save and enhance mat and fan weaving, an established income-generating activity.

council makes all decisions regarding resource use. "Young people still respect their elders in Uafato," said Sam Sesega, Acting Coordinator for Nature Conservation at SPREP.

The church is as mighty as the council of chiefs. According to legend, in the early 19th century the goddess and prophetess Nafanua told Samoa's King Malietoa that a new religion would arrive from the sky. All the people would embrace it, she said, and good harvests and peace would follow. When missionaries docked in the king's home village a few years later, he viewed their arrival as fulfillment of the goddess's words. Malietoa accepted the missionaries, and all of Samoa followed the leader and opened its doors to Christianity. Although the missionaries asked Samoans to give up many of their old beliefs, including each individual's faith in a special spirit animal, they left the chief system intact.

Life in the village is ordered, with the church and the council of chiefs providing structure and codes of behavior. The Sa gong, an empty propane tank hanging from a tree in front of the pastor's house, rings each evening, and families pray together before dinner in their open-walled houses. During daylight hours, the Uafato women's committee runs like a Swiss clock, sweeping the village, conducting cleanliness inspections, and running a weekly bingo game, complete with prizes of rice, sugar, and canned meat.

uafato's people and livelihood

The people of Uafato are savvy, practical, and well aware of the wider world beyond the village's borders. Large families of six to 10 children are the norm, with half of all young people living elsewhere for school or work, as close as Apia and as far away as Australia and the mainland United States. The people

here are also tough. In 1991, a major cyclone blew through, damaging the reef and destroying most of the village. Rather than move to a safer, inland location, the Uafato community chose to stay and rebuild.

Despite their regular contact with Apia and beyond, men and women in the village still provide most food for their families from forest gardens and the lagoon. They also make good money selling mats and carvings to tourists and other Samoans. Women weave mats and fans from the pandanus plant, a sturdy shrub with sword-like fronds for leaves. "Pandanus goes a long way back here in the village," said Sulia, 75, who still weaves fans to sell at her daughter's Apia market stall. "For centuries, we've used it to weave clothes and mats, including fine mats for honoring people at funerals and other important occasions."

Men carve kava bowls and war clubs using ifelele. Kava, a soothing tonic made from the roots of a variety of pepper plant, is served throughout the Pacific on many formal occasions, and kava bowls are in high demand. Although carvers here have only been marketing their wares for cash for a decade or two, Uafato already has a countrywide reputation for craftsmanship and is among the largest suppliers to the handicraft market in Apia. "Carving kava bowls and selling them to tourists, it's not just about the money," said Chief Ataiti Lo'i, a master carver. "Through my carving, I can perfect something. I'm proud of my work. People from around the world have my carvings now."

a community-centered conservation area is born

After the cyclones in 1991, a group of village chiefs approached a local environmental non-government organization (NGO) to ask for assistance in managing their forests and protecting their

After feeding his chickens, Chief Ataiti Lo'i returns home from his forest garden with his grandson. He sits on both the council of chiefs and the conservation area committee.



"There is a second and more popular story in Uafato about how the name Samoa came to be. The god Tagaloa's younger brother, Lu Fasi-aitu, lived in Tutu, in the foothills of the ninth heaven, and his house had 100 living people that served as posts to hold up the roof. Each day, Lu ate one of the 100 humans for his dinner, then replaced him with another person from the village. He called these special people his Moa, or human chickens, and it was taboo, or Sa, for anyone but Lu to take them. According to legend, Lu had a red cat that guarded the human posts. Today, Uafato's cricket team is named Pusi Ula, or red cat, after Lu's cat."

—Ioane Etuale,
support officer,
Uafato Conservation Area



lagoon. Many discussions later, the chiefs decided that they wanted to put more than 14 square kilometers of their ancestral forest lands under some kind of conservation. “The term ‘conservation’ is not new to us,” said High Chief Alailefue Lisale, 69. “One purpose of the conservation area is to keep international logging companies out of Uafato, because we depend on the forest for our survival. It is a matter of common sense.” The NGO applied for SPBCP support for Uafato’s project in 1994.

Getting complete agreement throughout the village to create a conservation area wasn’t easy. “Some people were concerned that the government would take away their rights to the land, and others were skeptical about how much benefit they would receive,” said Dion Ale, the support officer for Uafato Conservation Area until 1999.

Support from local pastor Asotasi Time has helped villagers recognize and understand their conservation issues. “I try to make them believe from inside, from their inner person, that the conservation area is a blessing from God,” he said. “We must show the world that Uafato Conservation Area from the mountain to the coast is untouched land. We haven’t sold it to the highest bidder and been left with a mess on our hands. It is the original forest.”

The council of chiefs, with its established method of making decisions respected by the entire community, has also played a vital role. As just another working committee of the village council, the conservation area committee fits right in with normal business in Uafato, and the council and high chief have final say on all conservation area decisions.

challenges and growth

The conservation area project has accomplished a lot since it gained SPBCP support. Most important, people in Uafato have a deeper awareness of conservation. “Before the project started, we thought our ifelele would last forever,” said Chief Ataiti Lo’i. “Now, we see ourselves having to go farther and farther

Mao and her daughter Beata, 10, clam for dinner in the tidal pools of Fagaloa Bay in front of Uafato village. Villagers don’t harvest marine life for cash because transport to the Apia market is difficult over the bad road.

into the forest to harvest trees. We need to replace the trees we are cutting down, or our livelihood will disappear.”

Apart from conservation, the village self-identified other development issues. By addressing some of these, the conservation area committee and the NGO stumbled on a good idea for future conservation efforts: linking conservation and development. In 1998, the program supported the installation of a water system for every house in Uafato. The next year, villagers requested and received fencing materials to build enclosed pens for their domestic pigs, which were trampling pandanus plants and depriving village women of raw materials for an important income-generating activity. Women in Uafato have been selling woven pandanus mats for cash for more than two decades.

Once they solved the free-roaming pig problem, the women’s committee moved on to the second piece of the puzzle: replanting. Like everyone else in Uafato, the women love a good contest. They organized a pandanus planting competition, with support from SPBCP. For an entire month, all of Uafato’s women competed to plant the most pandanus starts. The winner came in at just over 2,000 plants and snagged a sizeable cash prize.

“Our pigs are penned and don’t ruin the gardens anymore,” said Sulia, a weaver. “We’ve been harvesting continuously ever since the planting competition, and we’ve made a lot of money because of it.”

In an effort to diversify income sources, the project has also jump-started a new resource-based income-generating venture: beekeeping. Four young untitled men from the village set up 32 hives in the forest, with assistance from a man who has a successful honey business in Apia. For a 20 percent cut, he sells Uafato honey to shops in the capital. “I decided to try beekeeping to learn new skills,” said Sam Tui, 21, one of the four men who take care of the beehives. “I also wanted a job, and my chief urged me to do it.”

The project has given Ioane Etuale, conservation area support officer since 1999, a once-in-a-lifetime opportunity. “I’ve had a chance to learn our culture and our traditional stories, and to talk directly to chiefs and everyone else in the community,” he said. “I’m an untitled man, and I could never do that in my own village. It’s rare for a young Samoan man to get such an opportunity. It’s a benefit that money can’t buy.”

achieving adaptive management over the long haul

The project hasn’t come without stumbling blocks. “We’ve been through some hard times trying to improve the community’s understanding of conservation, and with recognizing our own ignorance as well,” said support officer Ioane Etuale. “Looking back, we imposed our ideas from the outside before we knew what really made sense from the inside. We didn’t really acknowledge that local people had knowledge that they had gained through tradition and history.”

One required project component, the project planning document (PPD), created both opportunities and problems. “The PPD process actually began here in the community and included workshops and discussions,” said pastor Asotasi Time, conservation area committee chair. “That part was good. But something happened in the process of writing it all down. It became this very long document that was hard for us to understand. Still, it does help us interact with donors and government, because they ask for that kind of document. But here in the village, people don’t plan that way. We constantly modify our plans to meet the demands of the day.”

An unresolved threat to the future of the conservation area is the continued over-harvesting of ifelele. Most of the chiefs now recognize that the resource is finite. According to a 1997 forest inventory, slow-growing ifelele only grows on lower ridge tops and in scattered small pockets. In order for the remaining 1,000 mature trees to sustain themselves, carvers must harvest fewer than 13 trees per year. Wood carvers in Uafato are still taking between 40 and 50 trees per year without replanting.

“Carving is a main source of income in the village, and they get paid well for it, so it’s difficult to change their behavior,” said Ioane Etuale. “Also, replacing the trees is a very new idea for this community. The people who plant new ones will be long gone by the time the new trees mature. It’s new to plan so far in advance.” As tourism numbers for Samoa continue to climb, the demand for carvings will only increase. For the con-

Like other Samoans, people in Uafato love sports. Every afternoon before dusk, people young and old gather on the village green to play volleyball. Competitions with other villages are frequent.

servation area to be viable, the chiefs must address the over-harvesting of this precious timber resource, and fast.

The ending of the SPBCP grant in December 2001 left Uafato in a bit of a scramble for financing, but the village council has decided, for now, to stay the course. They have plans for a tree nursery for ifelele seedlings, and they are using income from the first two honey harvests to buy more hives for the beekeeping operation. Provided the support officer does the legwork, the chiefs also support expanding the area under conservation to lands belonging to the villages just east and west of Uafato. The conservation area committee will welcome leaders from neighboring villages on study visits to Uafato, so they can make informed decisions about putting their own lands under conservation. The support officer is writing proposals to fund these activities, and a rainforest foundation based in Germany just completed a site visit.

Sam Sesega of SPREP agrees with the chiefs that the conservation area requires paid staff. “We need to continue to have a full-time person working on this, and that would be the support officer,” he said. “Villagers move around a lot. They leave the country. They go visit relatives. They work in New Zealand or Hawaii. That’s a reality of community life in Samoa. Community-driven does not necessarily equal the community doing all of the tasks. Relying entirely on community-based volunteering is not a realistic solution.”

life goes on

In the meantime, life in Uafato goes on under the powerful leadership of the council of chiefs and the church.

It’s lunchtime on Sunday, between morning and afternoon church services, and seven chiefs who also serve as deacons take a seat on pandanus mats covering the front room floor of Pastor Time’s house. Bare-chested and sporting orange, red, and blue lava lava, the chiefs and the pastor sit cross-legged. Across the room, their wives wear brightly-colored muumuus. A sudden downpour drowns out conversation as men and women alike devote themselves to the meal: fresh fish, local chicken, coconut cream roasted in taro leaves, steamed green bananas, and hot cocoa. Young women and untitled men tip-toe in and out, serving seconds and taking away empty plates.

Appetites sated, a few men light cigarettes and conversation gets going in earnest. Bursts of laughter that shake the building punctuate the men’s long stories. In another hour, they’ll all be back in their Sunday whites, reading their Bibles and beating their pandanus fans in a hot church while the pastor delivers another sermon. Some day soon, perhaps, his sermon will urge the people of Uafato to find a solution to over-harvesting the god Tagaloa’s sacred ifelele.





the snake spirit and the cycad tree

two villages make peace to protect a forest in vanuatu

“The first time I set my eyes on Vatthe Conservation Area in Big Bay, I was amazed by its massiveness, silence, and beauty. At the mouth of Natanatas River, I introduced myself to the snake spirit Alawuro. I asked for his blessing.”

—Charles Vatu, former conservation area support officer

For centuries, the people of Espiritu Santo Island in Vanuatu have regarded the Big Bay area in the north as a holy place of peace and power. Alawuro is the snake spirit guardian of Big Bay and its forest. From his cave in the limestone cliff-face overlooking the magical forest below, Alawuro sees all that happens in Big Bay. When displeased, he rides on his white horse into the village to warn people. Sometimes, the snake spirit appears in dreams.

Locals credit Alawuro with protecting Big Bay from outsiders, including a planter named Mr. Bardo, the builders of the first road to Matantas village, and, more recently, a cross-dressing schoolteacher. After encounters with the snake spirit, they all came down with crashing headaches and fled the area.

The people of Matantas and Sara villages fear and respect the spirit. They say Alawuro helped them create Vatthe Conservation Area (Vatthe), 3,700 hectares of the only extensive alluvial and limestone forest left in all of Vanuatu.

vatthe conservation area

The conservation area extends from the black-sand beach of the bay southward for four kilometers to the top of a limestone cliff 400 meters above sea level. In the west, it runs to the Jordan River, one of the largest rivers in Vanuatu. The forest provides habitat for 75 percent of Vanuatu’s native bird species and 42 percent of Vanuatu’s reptiles. Threats to the conservation area include brutal cyclones and the invasive big leaf vine, introduced by American soldiers during World War II as quick-growing camouflage.

“Before we set aside the conservation area, you could see there weren’t many birds, wild pigs, or wild bullocks near the village any more,” said school teacher Evelyn Palo of Matantas. “Now, we see the animals coming back.”

The conservation area also provides food, building materials, and medicines for the people of Matantas village. Located on the coast within the boundaries of the conservation area, Matantas is a tiny hamlet of 15 households, all related by blood. The people here are subsistence farmers and fishermen. Although most are Seventh Day Adventists, a few, including Chief Moses and his family, are Bahai’i. Seventh Day Adventist religion pervades village life. The prayer bell sounds almost as frequently as the roosters, calling villagers to church services at the start and end of each day.

Opposite: Subsistence fishers in Vatthe Conservation Area in Vanuatu head home with fish for dinner.

Above: Chief Moses of Matantas rests in his taro garden in the conservation area forest with his adopted son, Slim Dusty. Matantas, one of two villages working together to manage Vatthe, is located inside the conservation area boundaries.

A 100-year-old bean tree succumbs to the chain saw on Sara land. Most of the land around Sara village has been logged and converted to gardens and coconut plantations.



The larger and more cash-based village of Sara lies on the plateau above the cliffs, 25 kilometers outside the conservation area, along the road to Luganville, the largest town on the island of Espiritu Santo. “We have much more cash coming in here than Matantas does, because we’re closer to town and we can make money from the market,” said Sara landowner James Ness. Sara’s more than 250 inhabitants belong to three different reborn Christian faiths that all worship together.

vatthe has attracted foreign interests for centuries

The land and resources of Big Bay have intrigued people from around the world since the arrival of the first European explorers in the early 17th century. After these explorers came traders and planters and, more recently, loggers.

Whereas Matantas has had limited contact with loggers, the people of Sara have had plenty. “Logging in Sara has gone on for many years,” said Sara landowner Amos Warsel. “Logging gave me money to pay my children’s school fees, but it’s taking a very long time for the trees to grow back.”

“Logging benefited my family because we got tin roofs for our houses and we bought trucks and had money to repair them,” said Chief Lus of Sara. “When I look back, I have regrets. The money is gone now and so are the trees.”

Chief Moses of Matantas briefly tried to get into the logging game in 1984. “Asian businessmen from Port Vila, Vanuatu’s capital, came in and wanted to log Big Bay forest,” said Purity Tavue of Matantas. “They gave the chief a generator and a truck.”

Chief Moses was pulled up short by a dream-visit from Alawuro. “Alawuro came to me and told me I would lose all of my medicinal plants if we logged the forest,” he said. “I come from a long line of traditional healers. I realized I had to stop the logging or I would lose all of my kastom medicines.” Kastom is the Melanesian word for traditional beliefs and practices.

Other deterrents came in the form of objections from the people of Sara, who refused to allow the logging trucks to pass through their village, and Vanuatu’s Department of Forestry, which declined to issue a logging permit. According to Vanuatu law, the department can’t make a logging contract for land that is under dispute.

a 14-year land dispute saves the forest

Sara and Matantas had been arguing over Big Bay forest and adjacent land since 1981, and the government has consequently been unable to issue logging permits. It all goes back to an agreement in the late 1960s between the two villages. Under the agreement, Matantas got the rights to the bottom forest land between the cliff and the bay, and both villages resolved to share the land up on the plateau that runs from the cliff-top to the edge of Sara village.

In 1981, Sara granted permission to a Matantas resident to build a shed on the shared land. The resident took liberties with this privilege by planting gardens and building a house. In retaliation, Chief Lus of Sara struck a deal with a logging company to log the shared land. Chief Moses of Matantas sought a restraining order. A fight broke out between the people of both villages, who were armed with sticks and bush knives.

A series of community meetings in 1985 failed to resolve the dispute. Sara and Matantas resorted to the courts, including a tribal court and the provincial government court, followed by the Supreme Court of Vanuatu. In 1991, the supreme court awarded the upper land to Sara and divided the bottom forest land between Sara and Matantas.

After seven years in court, the two villages were bitter enemies, but the forest was still intact.

creating a conservation area leads to peace

By the early 1990s, the Environment Unit, a Vanuatu government department, had begun to recognize the ecological and biodiversity significance of the Big Bay area. When the opportunity to create an SPBCP site came up, the unit rushed to put together a proposal to meet the application deadline. SPBCP gave the project a green light, provided they get more community involvement.

“The Environment Unit selected a couple of candidates for working with us as support officer for the conservation area,” said Purity Tavue of Matantas. “The candidates came to Matantas, and we all gathered around to hear them answer questions. The people chose Charles Vatu, because he seemed like a man who would work hard and follow through.”

When Charles Vatu from neighboring Pentecost Island joined the project in late 1994, the two communities did not



With Sunday school, bible study, church service, and home visits to the sick, people in Matantas spend as many as five hours in prayer on the Sabbath. There are six different religions practiced in the small communities of Sara and Matantas, and many viewpoints to match.

want to work together. Matantas was interested in making a conservation area, though, and offered to lease Sara's portion of the forest. However, Sara's lease price was more than the cash-strapped village of Matantas could afford.

"The only option Matantas had was to unite with Sara on the project," said Charles Vatu. "When I suggested the idea in Chief Moses' meeting house, everyone shook their heads in protest. They did not want to work with the people of Sara because of the long row. When I explained that SPBCP funds would not come if Matantas could not reach a settlement with Sara, they reconsidered."

"The SPBCP money was incentive, but it wasn't the only reason," said Purity. "We wanted to protect the forest. According to the court ruling, Sara owns part of Big Bay's forest, and we couldn't set it all aside without them."

After 14 years of conflict, the two communities agreed to work together to create Vathe Conservation Area, provided that they dedicate a kastom peace ceremony to the snake spirit Alawuro to mark the end of the long disagreement.

"On the day of the peace ceremony, truckloads of people came from Sara in the morning," said Roy Palo of Matantas. "The two chiefs shook hands, and so did the people from both villages. Chief Moses and Chief Lus planted a cycad tree, a symbol of peace, outside of Moses' meeting house. Then they tied pigs to a tree and beat their heads with kastom wood clubs so the blood would bless the tree and the ground. All the people in the village contributed food to the feast that followed the ceremony."

The support officer called a joint meeting later that year, and villagers elected a conservation area committee, consisting of three people from each of the two villages.

business comes to matantas: the vathe lodge

"When the Environment Unit talked about conservation, we understood, but logging money still looked really good," said

Purity. “It could buy an education for our kids. So the Environment Unit proposed finding another way to make money from the conservation area, and that’s how the idea of the lodge started.”

Vanuatu draws more than 80,000 visitors each year, and Espiritu Santo, the country’s largest island, attracts volcano climbers, hikers, divers, and other adventuresome tourists. Cruise ships also visit the island’s peaceful beaches. The lodge at Vatthe appeals to all of these travelers.

Nestled beneath mature coconut trees are six thatched-roof bungalows that Matantas villagers helped build. Ferns and purple coleus plants flank the mowed lawn paths that connect the huts and the main building, where tourists enjoy fresh fish and local produce in the solar-powered restaurant. The lodge offers forest and garden walks ranging in length from two hours to all day, as well as nighttime coconut crab hunts, kava ceremonies, kastom dance shows, and live music by a local string band.

a two-year setback

Vatthe Lodge is a big business for a small, remote village like Matantas. The only other income-generating activity is copra (coconut meat), harvested and dried on two wood-fueled dryers and sold to processors in Luganville by fewer than half of the village’s 15 households.



Vatthe Lodge averages 250 visitors per year. Tourists usually arrange their stay at Vatthe through tourism operators in Luganville. Cruise ships occasionally stop at the lodge for a day of forest tours and local entertainment.

Vatthe Lodge opened on Solomon and Purity Tavue’s land in Matantas in 1997, and they are learning lessons about accounting and fair profit distribution the hard way. “People in the village always want to know where the money goes,” said Roy Palo, who works at the lodge as a nature guide and waiter. “For a long time, it’s been a source of conflict.”

“Villagers in Matantas and Sara see the tourists come through town, and they think there must be a lot of money,” said former support officer Charles Vatu. “They don’t understand that a lot of it goes into running the business. I think we raised community expectations too high at the outset regarding how much they could actually benefit from ecotourism.”

The conflict over finances came to a head at a community meeting in 1999. “I am not an educated person. I don’t know much about business, and I tried to do the financial accounts myself,” said Purity. “I messed it up and the numbers were wrong. When I presented the results at the meeting, everybody quarreled. It was a real mess. People thought I was pocketing money. As a result of this meeting, people lost interest in the conservation area.”

Tensions ran so high that the conservation area committee didn’t meet for two years. To address the bookkeeping issues, Charles sought out the Peace Corps to assist the lodge with business planning and accounting. The next year, Vatthe Lodge created the village’s first ever business plan, with operating expenses and profit allocations clearly spelled out.

In early 2002, Purity and the business were ready to have another meeting. “The main lodge room was full of people,” said Purity. “This time, there were no quarrels. I presented an official financial report, a printed out piece of paper with income and expenses for 2001. The numbers were very clear, and I’d worked hard to calculate things correctly beforehand.”

The Vatthe Boys String Band plays for visitors at the lodge. String band music is popular throughout Vanuatu, especially during all-night village revels around Christmas and New Year’s.



Now, half of the profit goes to maintaining the lodge buildings and machinery and the conservation area trails, and the other half goes into a community trust fund. Most people in Matantas and Sara are back behind the project again. “Landowners get benefits now,” said Chief Moses. “Tourists bring money to the business, then the business pays out benefits to the villages once a year. At Christmas and New Year’s, we use the money for our feasts.” Some villagers also benefit through paid jobs at the lodge.

the committee retakes the driver’s seat

Now that the business is back on track, the conservation area committee is meeting again. They have placed a ban on harvesting species that are special to the area, including coconut crabs, megapodes, Pacific pigeons, flying foxes, wild bullocks, and turtles. In the bay, the use of nets and spear guns is prohibited.

“We make exceptions to the ban,” said Nelson Timothy, a Sara landowner and chair of the conservation area committee. “In the case of school fees and formal ceremonies like marriages and funerals, villagers just need to ask our permission.”

Committee members are also mulling over possible solutions to a pressing problem: the people of Matantas want more gardens, but they aren’t supposed to destroy conservation area forest to create them. Sara villagers, on the other hand, have extensive garden lands and coconut plantations, because they have logged most of their forests. Although there is talk in Matantas of negotiating a lease with Sara to use some of their garden land, both communities are hesitant, for fear of reigniting old feuds.

the future is uncertain

Vatthe Conservation Area is facing an uncertain future. Because conservation areas are not legally recognized entities in Vanuatu, they do not have legal protection. Third parties such as logging companies and developers still view the conservation area as fair game. A few years ago, the Mondragon Group approached Matantas with a proposal to set up a free trade zone and build a big factory town on Big Bay, right in the middle of the conservation area.

“I told them, you can’t touch this land,” said Solomon Tavue. “We have an agreement with another village and this is



Conservation area committee chair Nelson Timothy of Sara (center) discusses new conservation area rules with committee member Arnold Prasad of Matantas (left) and former support officer Charles Vatu (right), at the Vanuatu Environment Unit office in Luganville.



Vatthe Conservation Area is 3,700 hectares in size and includes the last extensive alluvial and limestone forest in Vanuatu. It provides habitat for megapodes, Pacific pigeons, flying foxes, wild bullocks, turtles, and coconut crabs.

a conservation area.” Solomon deflected Mondragon’s interest in Big Bay by offering them a piece of land his family owns further inland, but it’s only a matter of time before more companies approach the village.

Regarding ongoing project support, both the national and provincial governments believe that Vatthe should be self-sustaining by now, and they have declined to put money for Vatthe Conservation Area in their budgets.

Enforcement of conservation area committee bans on harvesting is also a problem, due to a lack of authority. “The rules for the conservation area are difficult to enforce because religion has eroded traditional chiefly authority,” said former support officer Charles Vatu. The Seventh Day Adventist faith regards pigs as unclean and forbids believers to own them. Yet kastom requires that men earn chief titles and respect by host-

ing a series of elaborate pig feasts and sharing their pig wealth. While Moses is still recognized as Matantas’ chief, the church ban on pigs has prevented others from seeking titles, and there is no traditional village council in Matantas.

“My last act will be to bring together the two villages and have a final ceremony dedicating the conservation area back to Alawuro,” said Charles Vatu, the support officer whose funding ran out in July 2002. “We will dedicate every conservation area rule and agreement back to the snake spirit. After that, people who try to cheat will have to go against Alawuro and pay the price.”

“People believe in the spirit of Alawuro just like they believe in Jesus,” said Purity.

“Charles has been a good man to us,” said Eric Kad, Matantas resident and deacon in the Seventh Day Adventist church. “I guess we have to stand up on our own without him now.”



from the bottom up *resilient local leaders regroup in kosrae*

Locals love Utwe-Walung Marine Park. Truckloads of young people stream through Utwe town on their way home from the marine park on weekend nights. Most people in Kosrae, one of the four Federated States of Micronesia, are still learning the basics of conservation, but they're experts in the arts of recreational use and chicken barbeque.

This popular marine park is located within Utwe-Walung Conservation Area (Utwe-Walung), a sprawling tapestry of reefs, lagoons, mangrove channels, and dense wetland forest on the southwest coast of Kosrae island in the northwest Pacific. From the air, Kosrae is a lonely volcanic speck in a vast green ocean, a mere 109 square kilometers in size. A coastal road runs almost all the way around the island.

Utwe-Walung features an eight-kilometer mangrove channel that runs from the marine park on the edge of urban Utwe in the east, to the small, remote village of Walung to the west. Utwe, population 1,600, vibrates to pop music at dusk. The town is a chaotic ensemble of single-story cement houses clustered tightly in a scatter pattern away from the river and the road. Cars and trucks are everywhere in various states of functionality, from the reverend's new four-wheel drive to a rusted-out economy car covered in vines.

In contrast, Walung is Kosrae's smallest village, half a day's walk from the next town. The village's 230 inhabitants have no tele-

phones and no electricity. Daily activity revolves around the tides; anyone who wants to leave by boat has to wait for high water.

Both communities completely shut down on Sunday, along with the rest of Kosrae. The church is powerful and prohibits the use of liquor, tobacco, betel nut, and kava. It's not unheard of, however, for young men wearing backwards baseball hats to toss back a few beers by the side of the dirt part of the coastal road still under construction from Utwe to Walung, through the conservation area.

utwe-walung conservation area

The conservation area extends from the fringe reef inland, up the hillside, and it runs up the coast for 11 kilometers. It includes government-owned and privately owned land, 90 percent of which belongs to individuals in Utwe and Walung. The rest is owned by people from other parts of the island.

The wetlands forest in the conservation area, carpeted with brilliant green ferns, harbors the only remaining stand of ka trees (*terminalia carolinensis*) in the world. In the marine area, the reef hosts 145 species of corals and numerous varieties of fish. The extensive mangrove forests include six kinds of mangrove tree and patches of nypa palm, all sheltering mangrove crabs and sea horses and many other species. Because severe weather is rare, some of the trees are over 200 years old.

Opposite: Tadley Woodrow spear-fishes outside remote Walung village in Utwe-Walung Conservation Area.

Above: People all over Kosrae love the marine park inside the conservation area. On weekends, the visitor center and rental huts are packed with family and class reunions, and visitors rent the project's kayaks to paddle in the lagoon.



the marvels of mangroves

Mangroves surround most of Kosrae island. Living in the transitional zone between salt and fresh water, mangroves are a buffer between the clear salt waters of the reef and the silt-laden runoff from volcanic Kosrae. The roots function as giant sieves that trap silt and prevent it from smothering coral out on the reef.

Mangroves also act as living coastal barriers against rough seas. They prevent tidal flooding and salt intrusion into neighboring areas, and they stabilize shorelines.

Mangroves provide shelter, food, and a nursery for fish and other creatures, including mullet, snapper, crabs, popol clams, and sea horses. Herons, egrets, and brown and black noddy terns nest in the treetops.

Prop roots from mangrove branches high above the water run down to the channel floor below. In addition to bringing nutrients to different parts of the tree above, these roots stabilize the tree, which grows out, not up.

The eight-kilometer mangrove channel between Utwe town and Walung village shelters mangrove crabs, popol crabs, sea horses, and other marine creatures. Birds migrate to Kosrae's mangroves from as far away as Alaska and Siberia. Historically, the channel has served as a major transportation route along the southwest side of Kosrae Island.



food, firewood, and recreation

Almost everyone in Walung and many people in Utwe still rely on the land and the sea to meet their subsistence needs. Utwe is known for its bountiful waters, and people come from all over Kosrae to fish here.

Despite the conservation area project's efforts to raise awareness, destructive fishing is an ongoing problem. People spread a lethal powder, made by grinding two vine roots together, in the mangrove waters. It kills everything it touches. However, Clorox bleach is currently upstaging the home-made powder as the poison of choice.

"We outlawed fish poisoning, but people still sneak out and do it anyway," said Singkitchy George, conservation area board member and Director of Kosrae's Department of Commerce and Industry. "They don't understand why this kind of fishing is ultimately bad for them."

Mangrove overharvesting is another problem, as mangrove is the most popular wood for fires. "In Kosrae, people use firewood for ground ovens, especially for ceremonies," said Tatau Waguk, a private tour operator in Utwe who got free training through the conservation area project. "Funerals are the biggest ceremonies that we have here on the island. If you're talking about a funeral, all bets are off; people take what they need regardless of what the laws say."

From the wetland forests, Kosraeans have traditionally used the rare ka trees to build outrigger canoes, but demand has declined steadily since cars appeared on the local scene 20 years ago.

Then, there's the marine park. It's hard to find someone on the island who hasn't been there. Every weekend, the rental huts and visitor center are packed with family and class reunions. People have cookouts and rent the project's kayaks

The final quarter of the coastal road is currently under construction through the conservation area. The new conservation area board will discuss sustainable development ideas with villagers who own land along the road.

for a paddle around the lagoon. The conservation area gets the nominal proceeds from hut and kayak rentals, but few local users know that the marine park is connected to a larger conservation area.

the new coastal ring road

Meanwhile, the final section of the coastal road that will soon connect Utwe and Walung is rapidly making its way through the conservation area. Road construction is increasing erosion. Runoff and silt are filling up the mangrove channel.

Citizens are of two minds about the new road to Walung. "The road is great," said Utwe taxi driver Lee Nena. "As soon as it's paved and electricity comes in, people will start moving in right away."

"It's a plus, because in cases of emergency we can get to the hospital," said Max Salik, a private tour operator from Walung. "It's also a minus, because it's going to make it easier for other people around the island to fish here and take our resources."

"I worry about the electricity out on the road to Walung," said Madison Nena, conservation area support officer from 1995 to 2001. "Once that comes in, it's hard to predict how much development will take place in the conservation area."

the board selection process holds the project back

The conservation area project has had some troubles. "Things have kind of fallen apart since Madison stopped working as support officer a year ago," said Nena Benjamin, an Utwe resident and chair of the conservation area board.

Most of the problems stem from the fact that the communities did not select the board members when the project got off the ground in 1995. "The municipal government selected us to be on the board, and then we made the by-laws," said Nena Benjamin.

"The concept of involving the community is really good, if they are ready," said board member Singkitchy George. "That's the big issue here. The board has had friction because people aren't completely clear on why they're being asked to participate, and they are not totally committed to the project as a community activity."

"It's set up so that to be a member of the conservation area, you have to buy shares," said Reverend Nadchuo Andrew of Utwe. "One share costs ten dollars, and only people who pay are eligible to be on the board."

"The people with more shares have more say in decisions," said former support officer and current board member Madison Nena. "Many resource users can't participate, because they don't have the cash to buy shares. The people who need to be running the project are not on the board."

As a result of the board selection process, people in both communities perceive the conservation area as a government project. "Some people hate the government," said Reverend Nadchuo Andrew. "People still think the conservation area is a government program, and they don't like it because of that."

Another problem is that people aren't seeing any tangible results yet. "The marine park has been going on for five years now, and we've seen no benefits," said Hasime Taulung of Walung.

"In the beginning, we were interested in the conservation area project because of the promise of profit," said private tour operator Tatau Waguk of Utwe. "This promise attracted landowners to the conservation area concept. Unfortunately, they are still waiting for the profits to materialize."

tradition's pulse is weakening

A glance at Kosrae's history and culture puts some of the project's problems into perspective. The first visitors to stop and stay in Kosrae were whalers from America and Europe in the early 1800s. They brought whiskey, tobacco, and a wild lifestyle. They introduced diseases that spread quickly, and many people died.

The missionaries came next in 1852, discouraging Kosraeans from falling in with the whalers, but weakening their link with traditional spiritual beliefs in the process. "Before the missionaries came, we believed in the goddess Sinlaku," said Hackley Waguk, 47. "She was the goddess of nature. Anything we needed, she provided. When the missionaries came, Sinlaku and the people who wanted to stay with her left the island. That's the legend."

Then, beginning with the Germans and continuing with the Japanese and the Americans, colonial powers dismantled Kosraeans' traditional land ownership system. Formerly clan-



based, land ownership today sits with individuals who follow no standard right of inheritance.

The United States left a dominating state and national government system in place. Government employees, not chiefs or families, make decisions. “We are used to outsiders overseeing the place,” said Singkitchy George. “We are used to authority telling us what to do. This idea of having communities make decisions is new. To suddenly switch to a bottom-up approach is radical, and it’s difficult.”

Kosraeans also have a strong desire to be modern. “People go out fishing all day, only to sell their catch for cash to buy canned mackerel,” said Madison Nena. And, for the first time, people on Kosrae are urging their children to leave the island to continue school and get paying jobs in the outside world.

successes to build on

Despite the troubles, the conservation area project has had bright spots. One of the project’s assets is Madison Nena, project support officer until 2001. A steadfast and honest leader, he is not afraid to face the mistakes and chart a new course. Financial support for his job ended a year ago, but Madison has stuck with the project in an advisory capacity. “Even though I’m not the support officer anymore, I am on the board and I’m willing to facilitate the transition,” said Madison.

Madison and other conservation area board members would like to build on the project’s successful workshops — one in participatory rural appraisal and a few others in creating sustainable resource-based businesses. More than 250 people from Utwe and Walung came to the three-day participatory rural appraisal session. “People liked the activities,” said Madison. “In the workshops, they came up with their issues. They had good group discussions and got pretty involved. They talked about over-harvesting, and land filling came up a lot, too. By the end, we were all engaged.”

“At the workshop, I realized that the mangrove supply is not

During a Saturday morning working bee in Utwe, Sepe Alik (left) and Louisa Nena join other Utwe women in preparing lunch in traditional ground ovens while the men work on Utwe’s new church. Volunteer ethic is strong in Kosrae when it comes to church-related activities.

endless, and I learned a different way to cut the mangrove,” said Setsuko Nena, a Walung farmer. “Now, I try selective cutting. It is much harder work to cut this way, cutting one here, moving through the dense forest, then cutting again somewhere else, but I do it.”

The business workshops were also a success. People from Utwe and Walung who took them have started successful private, resource-based businesses. “In the second year, we started the canoe project,” said Madison. “This involved teaching young men how to build traditional outrigger canoes. An older man in Utwe who had the knowledge did the training. As the project was winding up, one of the board members saw potential in it as a money-making venture. He hired someone from Utwe to make canoes to sell and also to continue to teach village youth the skills. Some of the students from the conservation area canoe project are now learning with this guy.”

“I just finished a class for five young men, all from Utwe,” said master canoe builder Clyde Nena. “I teach them how to choose the best trees for building canoes. We look for mature trees with very straight trunks and no branches, and we cut the tree to size right there in the forest, hollowing it out a little bit to make it lighter to move. Then we do the finishing work here in my canoe-building house.”

Two small tour operations are also up and running. In Utwe, brothers Tatau and Hackley Waguk lead mangrove channel canoe tours and forest walks to an ancient religious site. In Walung, Max Salik arranges homestays and leads motorboat and walking tours. All three men took ecotourism workshops offered through the conservation area.

determined leaders find a new way forward

Another obvious asset is the conservation area itself, a sparkling gem in the northwest Pacific that local leaders recognize is worth the effort it will take to revamp the project. Core board members have come up with a new plan to reinvigorate the conservation area and get it on its way.

Everyone agrees that the first step is reorganizing the board and changing the by-laws so that resource users don’t have to buy shares in order to participate. “I’ve learned that if there is going to be a board to oversee things, then the community, not the government, should select the board,” said Madison. The

first acts of the new board will be to hire a full-time project manager and to arrange some capacity training for the board itself.

Next, new board members will review the results of the participatory rural appraisal workshop and go back to the community to discuss solutions. “The weakness before was that the board was supposed to act on the issues and ideas that came out of the participatory rural appraisal workshop,” said Madison, “but the old board got stuck.”

One topic will be ideas for resource-based businesses that go beyond ecotourism, for people on an island that gets fewer than 2,000 visitors per year. “It’s not smart to get people all revved up to work on tourism enterprises, because we just don’t get that many tourists,” said Madison.

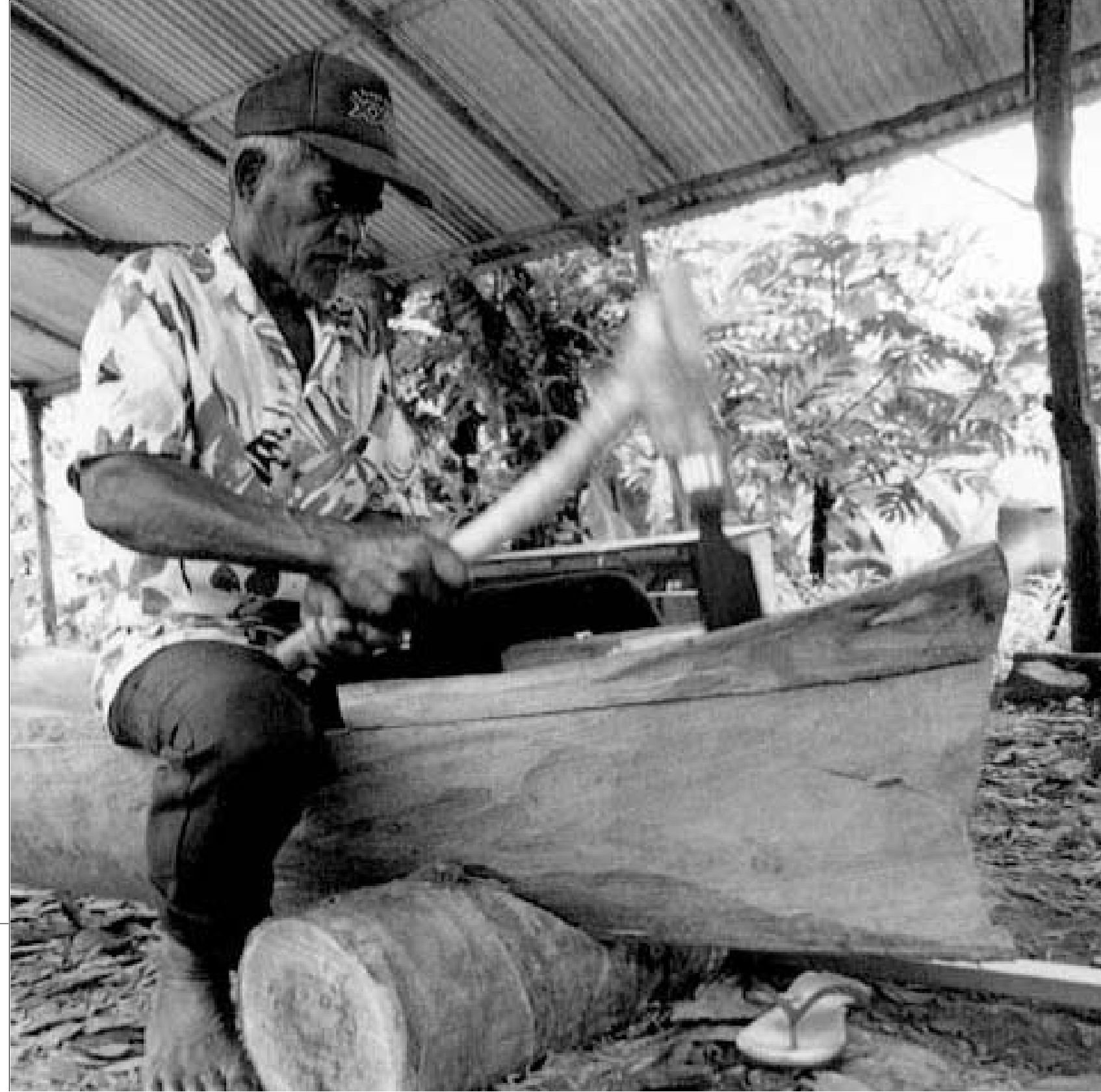
The Utwe-Walung Conservation Area project will also renew and modify outreach and education efforts. “In our regular system, the law is enacted with an open meeting to discuss it, but few people come to these open meetings,” said Singkitchy George. “They are much more comfortable talking informally in the community, so we really do need to go to them. We need to educate people so they can make intelligent choices.”

Meanwhile, Madison has been working on a country-wide conservation effort. With others, he has created the first federal and state non-government organizations (NGOs) in the Federated States of Micronesia. The national NGO, the Micronesia Conservation Trust, recently secured US\$135,000 in grants from the Nature Conservancy and other sources to pay an executive director and set up a grants program for conservation efforts across the country. The state level NGO, the Kosrae Conservation and Safety Organization, has been working on environmental issues for two years and is looking for funding to support new work in Utwe-Walung Conservation Area. Madison is active on the board of both organizations.

“Even though people here don’t actually know yet what the purpose of the conservation area is,” said Tatau Waguk, “the important thing is, we have started the conservation area, and the marine area is protected because of it.”

“We have one single island,” said Madison Nena. “There is only one Kosrae. Once we ruin it, that’s it.”

Master carver Clyde Nena teaches young men in Utwe the traditional art of carving canoes out of ka trees.





against the odds

three states in palau collaborate to conserve a precious bay

On a Friday night in the village of Ngaremlengui on the coast just north of Ngaremeduu Bay, men linger at the fishing co-op as fish feed in the mangroves across the channel. Illuminated by bare bulb lights, the men sit on wooden benches and at long picnic tables, shirts off, having a smoke or a betel nut chew and chatting about the week's events. The phone is always ringing at the co-op, a longtime village institution and the hub of the men's social life. "It's where the boys hang out," said Oinge Rengiil, one of four local men who staff the co-op.

These men are almost as proud to be from one of three villages protecting the bay as they are of the shark that one of them just brought in. They know that in a small but complex country like theirs, with tribal chiefs, legislatures in each of 16 different states, a federal government, and a council of chiefs, three communities working together is nothing short of a miracle.

Independent from the United States since 1994, the Republic of Palau is the western-most island group of Micronesia. For its 18,000 people, a quarter of whom are contract laborers from overseas, the government is the largest single employer.

Babeldaob, the Republic of Palau's largest island, is home to 4,600 people. The high volcanic island is 396 square kilometers in size and divided into 10 states. On Babeldaob's western coast, Ngaremeduu Bay stretches across the boundaries of three states: Aimeliik, Ngaremlengui, and Ngatpang.

Getting around the island is difficult. It takes more than an hour and a half in a four-wheel-drive to get from Palau's bustling cosmopolitan capital of Koror to the village of Ngaremlengui, just north of Ngaremeduu Conservation Area and only 30 minutes away from the capital by motor boat.

a natural nursery

Ngaremeduu Bay is the largest estuary in all of Micronesia and one of Palau's primary marine nursery grounds. Approximately 12,960 hectares in size, including the marine area between the mouth of the bay and the reef, Ngaremeduu Conservation Area is one of the most biologically diverse marine areas in the world. Three major rivers run into the bay from the uplands, including Micronesia's largest river, the Ngermeskang. The conservation area includes these rivers and their banks, some uplands, an extensive mangrove forest, the bay itself, the lagoon, and Ngaremeduu's coral reef, which hosts 300 species of reef fish, 200 species of stony corals, and 166 species of macro-invertebrates.

Hawksbill sea turtles, saltwater crocodiles, and dugong, an endangered species of sea cow, all make their way to Ngaremeduu Bay. "The bay is a natural nursery," said Theo Isamu, Director of the Bureau of Marine Resources in Koror, which oversees the conservation area project.

Opposite: Ngaremeduu Bay is the centerpiece of 12,960-hectare Ngaremeduu Conservation Area, on the west coast of Babeldaob Island in Palau.

Above: Josephine Felix and Edwin Montecalvo clean fresh-caught sea cucumbers at the old dock in Ngatpang village. Josephine's father, Chief Rebelkuul Felix Osilek, sells sea cucumbers to vendors in Koror through the fish co-op in neighboring Ngaremlengui.

“It’s a good birthing place for crab, crocodile, shrimp, and many kinds of small fish,” said elementary school teacher Janice Yukiwo of Ngatpang. “The lagoon is a good feeding ground for dugong, which eat the sea grass.”

The conservation area also includes over 700 hectares of healthy mangroves, comprising approximately 13 mangrove species. “Mangroves act like a filter and keep junk out of the bay,” said conservation area committee chair Erchar Franz, a fisherman from Ngaremlengui and a regular at the co-op. “They also protect the bay’s wildlife; young fish and crabs grow up among the mangrove roots.” Birds are everywhere and include six out of eight of Palau’s endemic bird species.

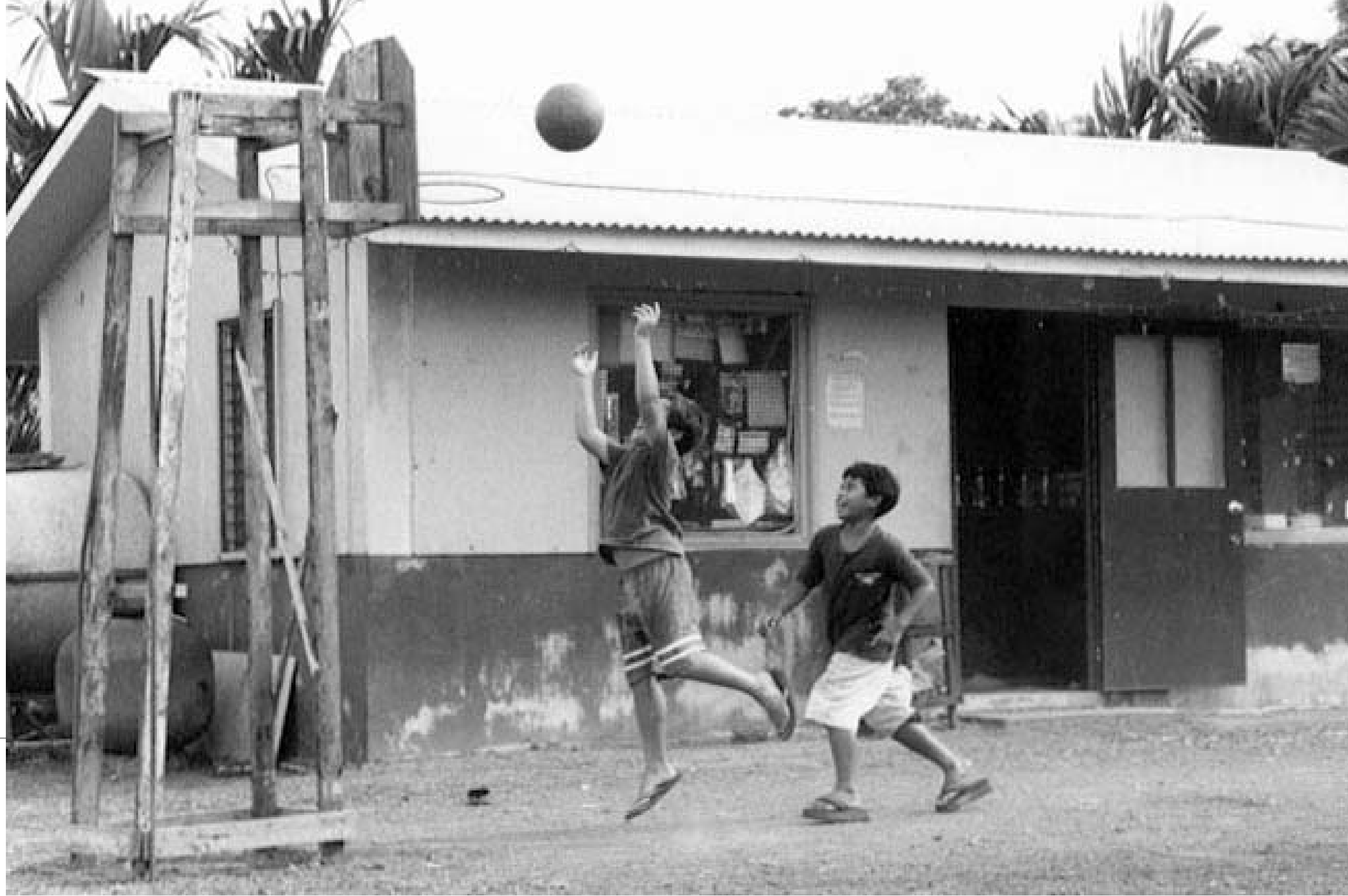
three diverse communities

Each of the three villages that depend on Ngaremeduu Bay for their inhabitants’ livelihood has a distinct personality. Two are in the state of Ngatpang and one is in the state of Ngaremlengui. Villages in Aimeliik state are far from the bay and do not rely on resources in the conservation area. One thing all three villages have in common is a plenitude of four-wheel drive vehicles, essential for anyone wanting to leave the villages by any means other than motorboat.

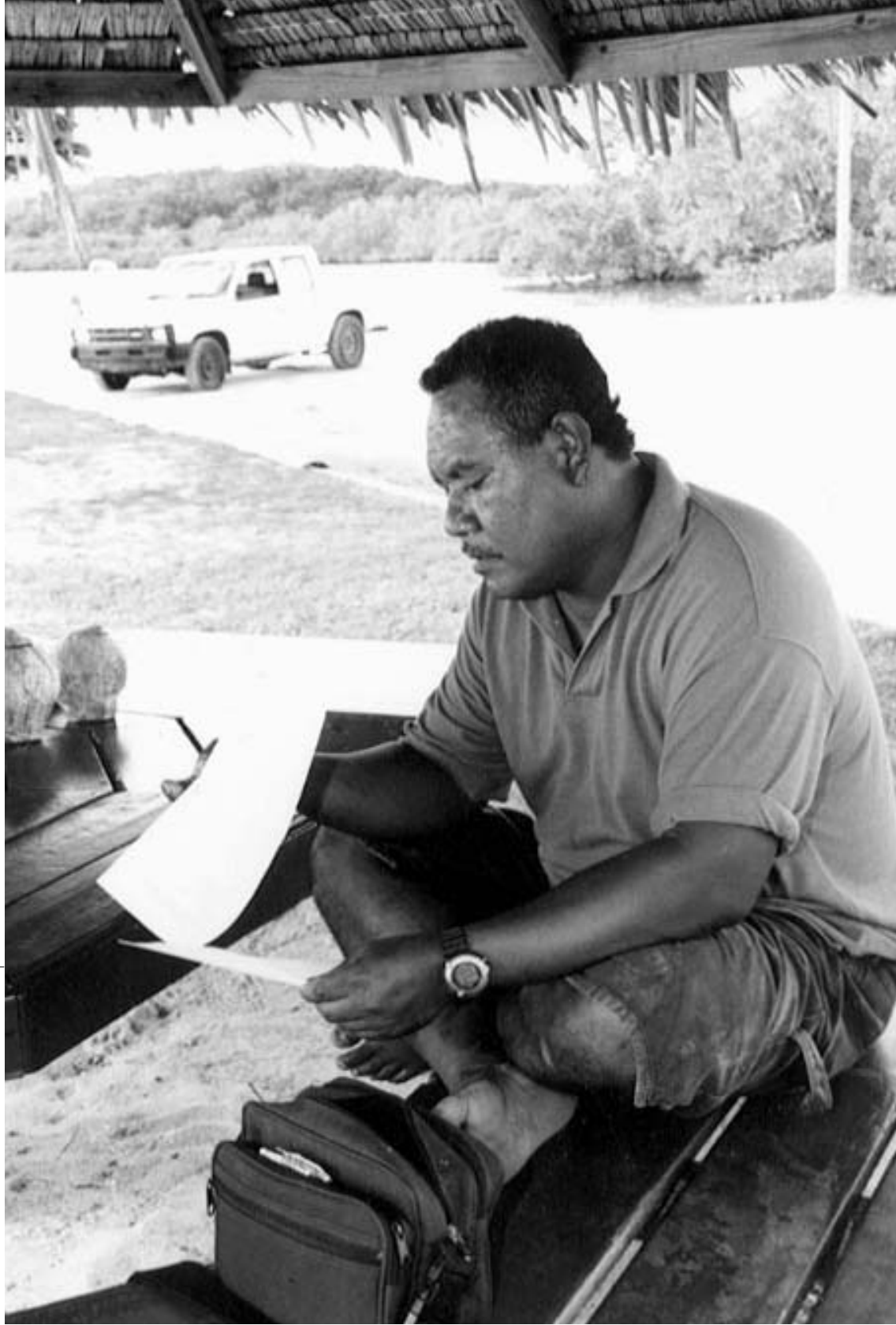
Ibobang, on the east shore of the bay in Ngatpang state, is the only village located within the conservation area boundaries. Ibobang is the hub of an old Palau religion called Modekngai, which translates as togetherness. Alcohol and cigarettes are banned in the village, which hosts an annual gathering for Modekngai believers. “It’s mostly older people and kids,” said Joey Mad, a young Ngaremlengui man who lived in Ibobang for four years. “The adults are working in Koror to make money to take care of their parents back in the village.”

The village of Ngatpang, on the coast just south of the mouth of the bay, is the seat of Ngatpang’s state government. Internal village politics are close to the surface, as the state’s executive officer does not always agree with the legislature’s decisions. “Our legislature is composed of ten traditional chiefs,” said Gilbert Demei, Ngatpang State Executive Officer.

Boys in Ibobang play basketball on a hot afternoon. Elders and children live in the village, while working adults are off earning a wage for the family in Koror, Palau’s capital.



Conservation area committee member Wilson Ongos of Ngaremlengui reviews Ibobang village's proposal for a new landfill. The bag he carries includes all of the ingredients for a good betel nut chew.



“They did away with closed seasons for mangrove crabbing a few years ago. Two of the chiefs are mangrove crabbers, and they convinced the others to do away with the ban. I have a background in environmental work, and I know we need to have closed seasons to prevent over-harvesting.”

Ngaremlengui, one of the oldest villages in Palau, is full of business-savvy people who still follow custom and revere their traditional chiefs. Their state still has harvesting bans, and people respect them. “We have problems with people from other villages setting traps during the banning time in our section of the bay, and also with people poaching crabs from the traps,” said Ngaremlengui Chief Ngiraklang Blau Skebong.

managing the conservation area

Relations among the villages aren't always smooth, but they are still able to work together to manage the conservation area through the conservation area committee, formed in 1998. Four representatives from each of the three states sit on the committee, which makes decisions on behalf of the conservation area. They rotate meeting location from state to state, so everyone gets a turn at solving the endless transportation hassles that are part of life on Babeldaob Island.

At the outset, committee members already understood the traditional practice of “bul,” a temporary ban on harvesting certain species, but they had never worked on a conservation project before. “This is my first time working on conservation,” said committee chair Erchar Franz of Ngaremlengui. “In the beginning, all of us on the committee spent a lot of time learning what modern conservation is.”

“When people in the village hear ‘conservation,’ they think this means no access and no future development, because before this project, that’s what it meant,” said Theo Isamu, Director of the Bureau of Marine Resources.

The committee has come a long way since it first met in 1998, progressing from learning the basics of modern conservation, including the idea of scientific monitoring, to blowing the whistle recently on a national landfill project within the conservation area’s boundaries. “A woman on the conservation area committee, Yolsau Ais, came and told us about it,” said Fritz Koshiba, Minister of Resources and Development for the national government and Theo’s boss. “We went out there with

the GPS and discovered the landfill project was inside the conservation area. They were doing the landfill in the wrong place. Even though it was a national government project, they had to stop work and move. All the silt and waste would have drained straight into the waters of Ngaremeduu Bay.”

“When I joined in 1999, I hated being on the committee,” said Yolsau Ais of Aimeliik state, committee vice-chair. “I thought, what can I contribute? I was bad in science when I was in school, and I didn’t know anything about conservation. I was intimidated to be on the committee. Now, three years later, I can even talk about conservation, and I don’t get nervous anymore when technical topics come up.”

The conservation area committee works closely with conservation area support officer Alma Ridep-Morris. “My job is to make the linkages between the communities and the state governments, between the state governments and the national government, and between the national government and the communities,” said Alma.

“Alma is a good communicator,” said committee member Wilson Ongos of Ngaremlengui. “When she has an idea, she puts it on the table, and she gets everyone’s input. It’s nice to see the plan change based on what we say.”

a national development project creates a roadblock

In a country with jurisdictions as complicated as Palau’s, it’s no surprise that communication problems and competing interests have slowed down implementation of a collaborative, community-based project like the conservation area. Misunderstandings over one national development project in particular, the compact road project, created confusion in villagers’ minds about the difference between conservation and preservation, and held up the conservation area project for more than two years.

Part of a 50-year aid agreement between the United States and Palau, the compact road is an 85-kilometer ring road under construction around Babeldaob Island. “We’ve had to meet certain U.S. requirements to get the road built,” said Minister Fritz Koshiba. “One requirement is that we compensate for the environmental impact of the road, especially on the wetlands, by setting aside two mitigation sites on Babeldaob Island. Initially, the U.S. wanted both of the mitigation sites to meet

U.S. environmental protection and preservation standards, which means they would be off-limits to any kind of resource use.”

The national government couldn’t start building the compact road until they had identified and set aside these protected areas, and the compact road project had already faced many delays. From the national government’s perspective, Ngaremeduu Conservation Area seemed like a natural and easy choice for a mitigation site.

The conservation area project was well under way when the government began looking for mitigation sites in 1998. A conservation area support officer had been in place since 1995. Extensive consultations had already taken place at the federal, state, and community levels. By 1997, the three states of Aimeliik, Ngatpang, and Ngaremlengui had agreed to create the conservation area, and they had established the inland boundary to include the upland watershed that leads to the Bay. “Communities agreed to the boundaries, which included upland areas, because we agreed to allow sustainable use,” said Alma, the conservation area support officer.

“We had already begun the effort to create the conservation area, and the national compact road committee wanted to take advantage of that,” said Chief Rebelkuul Felix Osilek, who represents Ngatpang on the conservation area committee.

Without fully consulting with the conservation area committee and the support officer, the national compact road committee held its own meetings with the communities and states of Ngaremeduu Conservation Area. At these meetings, national government representatives explained that, as a mitigation site, the conservation area would have to follow the United States’ strict preservation and protection rules.

Ngaremeduu communities and states were confused, because the conservation area committee and the support officer had told them that sustainable use would be allowed. Now, the compact road committee was saying something different.

Local people also began to have second thoughts, because the compact road would make the uplands areas viable for new development. “When the communities and the states first agreed to the conservation area, there was no compact road and no infrastructure in place,” said Minister Fritz Koshiha. “They couldn’t really imagine much development use for the land. Once something like the compact road begins to become a real-

ity, anyone in their right mind would want the chance to make good money from the opportunity.”

“Some people in Ngaremlengui were primarily interested in protecting their right to make businesses along the compact road, but they didn’t represent all of us,” said Erchar Franz. “I wanted the conservation area to go all the way to the road.”

The compact road debate temporarily shipwrecked the delicately balanced agreement created at the end of the initial two-year conservation area project consultation process. “We saw all the hard work, all the trust and support from communities we had gained slowly over a period of years, practically thrown out the window,” said Alma.

“We had to work really hard to find a solution,” said Minister Fritz Koshiha. “We had many meetings, here in Koror, in Babeldaob, in Hawaii, in Guam — at the community level, the state level, the national level, and also with the U.S. government. Everybody had to compromise.”

In the end, Ngaremeduu communities secured their right to use resources in a sustainable way within the conservation area, as previously agreed. They also insisted that the original upland boundary of the conservation area change to exclude their private property. With the exception of the three major rivers, flanked by 25-foot buffer zones, and a small portion of state-owned upland forest in Aimeliik, the upland watershed was removed from the conservation area. “We lost almost all the uplands, but we saved the mangroves,” said Fritz Koshiha.

the conservation area committee moves ahead

Against the odds, Ngaremeduu Conservation Area survived, and the three states of Aimeliik, Ngatpang, and Ngaremlengui each passed legislation recognizing Ngaremeduu Conservation Area and its new boundaries in May 1999. This formal conservation status will be difficult to revoke. “Now that we are recognized by state law, we know that our bay will be protected,” said Chief Ngiraklang Blau Skebong of Ngaremlengui.

The states have formalized their agreement to work together, and the conservation area committee is moving forward. Their plans are clearly spelled out in a conservation area management plan they created in collaboration with Alma in 2000. “It must have gone through at least 18 drafts, because I



Daewoo company of Korea has the contract to build the 8.5-kilometer compact road, a ring road under construction on Babeldaob Island. This national development project created a temporary roadblock for the conservation area.



On Saturday morning at the Ngaremlengui fish co-op, Sigilkikii Oly chops leaves that act as a preservative for sea cucumbers. Co-op staff make two or three trips a week to the markets in Koror, Palau's capital.



presented every draft to the committee and went through the details," said Alma. "We had to agree on what was realistic."

After so many years of negotiating, communities are growing impatient to see benefits, so the committee has placed a high priority on developing alternative sources of income. "We've put a lot of time into serving on the committee, but we haven't seen economic benefits yet," said conservation area committee member Chief Rubeang Hiromi Nabeyama of Ngatpang.

"Our top priorities are to develop an ecotourism operation and to hire a patrol officer to enforce harvesting bans and catch poachers," said Wilson Ongos, committee member from Ngaremlengui. Ecotourism is a good choice for Ngaremeduu, given that Palau's famous Rock Islands already draw many tourists each year. Ngaremlengui will serve as home base for the kayak and tourism operation, because it already has strong local capacity for running businesses, including a lodge, a general store, and the fish co-op, which predates the conservation area.

"An ecotourism workshop I attended in Samoa got me thinking about making a trail to the waterfall and integrating a kayak trip down from there, through the big river and mangroves to the bay," said Erchar. "I also started thinking about a lodge. Once we earn some money from basic kayaking tours in the bay, we can move on to developing these other ecotourism activities."

In addition to ecotourism and patrolling, the committee has identified biodiversity monitoring as an important activity. Monitoring systems are in place to measure changes in water quality, crab population, mangrove habitat, and the reef and its diverse marine life.

While many people now understand the concept of sustainable use, few see the connection between the health of the upland areas and the life of Ngaremeduu Bay. Road construction is

Bigeye scad, called terekrik in Palauan, travel in large schools through Ngaremeduu lagoon. Terekrik is a good bait fish.

already resulting in erosion and increased sedimentation in the rivers and the bay. Because villagers who own land by the compact road will soon make decisions about how to develop it, the management plan for the conservation area calls for sustainable development, as well as new education and awareness activities. These include a quarterly newsletter, an educational coloring book, and an illustrated mangrove guide for villagers.

government and donor support ensure the future

The national government in Koror supports Ngaremeduu Conservation Area. The Bureau of Marine Resources has included staff support for the project in its next budget, and the Ministry of Resources and Development is firmly behind it. "State leaders change every four years," said Minister Fritz Koshiha. "If we want to see Ngaremeduu protected, the national government is going to have to play a role for a fairly long time."

Complementing national government support, a diverse base of foreign donors is rallying to the cause, including USDA, MAREPAC, SPREP Telegrant Scheme, and UNESCO, which recently awarded the project a major grant. Funds from these organizations will support the committee's plans for ecotourism, patrols, and biodiversity monitoring.

"In 10 years, you'll see that the conservation area has made a difference," said Oinge Rengiil of Ngaremlengui. "When the road's finished, things are going to change here. Development is going to come in. We'll regret it if we don't conserve our bay. There's no big bay like this anywhere else in Palau." Or, for that matter, in the world.