

## ECO-CONSCIOUSNESS IN TRADITIONAL PALAUAN SOCIETY

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***Abstract:** Before it was colonized a century ago, Palauans were largely isolated and constrained to living within the limitations of their environment. Foreign governments brought a trade-based economy that eroded traditional practices, beliefs, and values, but did not remove their core. This paper describes the traditional belief structure in terms of stories, customs, and language. From 1885 to 1994, Palau was strongly influenced or controlled successively by the Spanish, the Germans, the Japanese and the Americans. With independence, the government is promoting tourism, but this is likely to bring many disruptive influences, including an increase in foreign laborers that makes more difficult any collective efforts at environmental protection. Despite initiatives by many, including NGOs and neighborhood groups that have traditional roots, to promote environmental values, development pressures remain somewhat out of control in Palau.*

### Introduction

Until the early part of this century, a thorough knowledge of their world was essential to the well-being of the people of the islands now known as Palau. Largely isolated from the rest of the world, if Palauans had irreversibly upset the natural balance of their environment, they would surely have faced starvation. For early Palauans, eco-consciousness was intrinsic to the everyday life and cultural perspectives of their world.

With the arrival of various colonizers, Palau was propelled, virtually overnight, from a subsistence-level economy to one that involves trading internationally and exposure to goods previously unknown and unavailable. The presence of foreign governments and the emergence of a trade-based economy eroded adherence to traditional conservation practices, leaving an ethical vacuum as a new nation struggled to adjust to these new guiding principles. Without the checks and balances of the traditional system, Palauans, who began to reassume control of their country in the 1950s, often fell prey to the comparative freedom of a democratic style of government. Elected leaders used their positions for personal gain rather than to provide constructive guidance to their emerging nation. The following decades were marked by an overharvesting of marine and land resources and overall degradation of the environment through pollution and development.

Today, although degradation continues at an ever-increasing pace, hope lies in the increasing concerns raised by Palauans who are witnessing firsthand the costs of such behavior. Despite the overwhelming impact of a foreign lifestyle, the core of

many traditional beliefs, values and practices has survived. Palauans are still closely tied to the land and the sea. Nevertheless, the changes that have occurred in the last century require that the traditions that once met the needs of the community must undergo further modification in order to mold to the demands of the modern lifestyle that Palau is still in the process of adopting.

## Background

The Republic of Palau is a 400-mile-long (644-kilometer-long) thread of islands at the westernmost edge of Micronesia (Fig. 1). Its closest neighbor is almost 320 kilometers (200 miles) away. It is oriented in a largely north-south direction and comprises more than 500 islands, of which only 13 are inhabited. Broken down there are three main island groups of varied geological composition. Kayangel and Ngaruangel to the north are atolls. The Southwest Islands to the south have two atolls and several low coral islands. The main island group consists of a large lagoon, which is home to more than 500 islands, plus the island of Angaur, which is a raised coral island separated from the main lagoon by approximately 10 km (6 miles). The lagoon is protected by a barrier reef that is 161 km (100 miles) long and nearly 32 km (20 miles) at its widest point. Within this group, some of the islands are volcanic, some are low coral, and the remaining are high-limestone islands, which largely make up the uninhabited group known as the Rock Islands. It is for these green-capped mushroom-shaped islands and the reefs that surround them that Palau is best known.

The Palau Lagoon, in which most of the populated islands are located, is actually an ancient reef that emerged and grew as submarine volcanic activity raised the ocean floor toward the ocean surface and the sea level dropped. Over the thousands of years since emergence, vegetation has flourished in our maritime tropical rainy climate. Most of the islands in the main lagoon are covered by lush jungle vegetation, while the larger islands have numerous habitats, including woodlands, jungles, streams, freshwater swamps, estuaries, lakes, seagrass beds, and mangrove forest. These varied habitats host more than 1,258 varieties of plants, of which about 65 species and 10 varieties are endemic. This rich terrestrial environment also provides a home for about 5,000 species of insects, 141 species of migrant and resident birds, of which eight are endemic, and three species of land mammals, of which only one -- a subspecies of the endangered fruit bat -- is endemic.

But Palau's greatest biodiversity is evident under the surface of the sea. The expansive barrier reefs are inhabited by more than 700 listed species of hard and soft corals, 1,400 species of fishes, seven species of giant clams and innumerable other invertebrates. These reefs are also one of the last refuges for a variety of endangered marine mammals, such as the dugong, and reptiles such as hawksbill and green turtles, and the saltwater crocodile.

In addition, many of the Rock Islands have isolated marine lakes that are fed from the ocean through the porous limestone rock at their base. Within these isolated ecosystems, species have adapted to lives absent from the dangers of the open water. The most well-known example of this is Tketau Marine Lake, commonly called Jellyfish Lake. This lake is literally blooming with *Mastigias* and *Aurelia* jellyfish that

over thousands of years of safe living have lost their defensive sting.

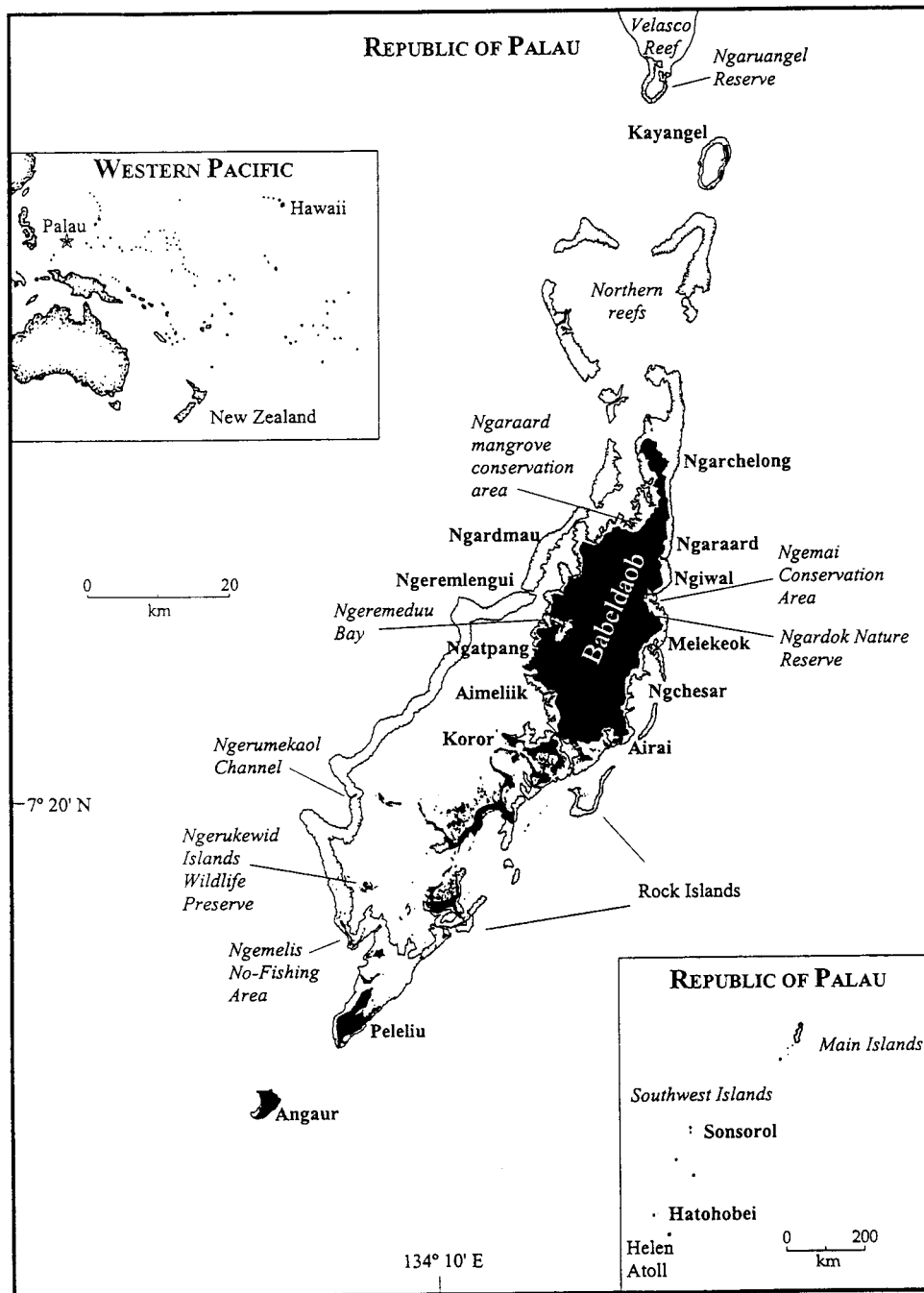


Figure 1. Map of the Republic of Palau.

Situated a mere 400 km (250 miles) north of the equator, the main islands of Palau do not experience the widely varying temperatures that characterize the four seasons for many nations. Two primary seasons -- *eltel a ongos* (east wind) from

November through April and *eltel a ngebard* (west wind) from May through October -- dictate the patterns of life. Within each of these two phases, there are six smaller cycles that correspond to the lunar cycle. All told, these 12 cycles correspond roughly to one calendar year. As early Palauans would say, the god Rak carried the moon from village to village, starting with the northern village of Ngetmel to the southern village of Bkulngeaur. By observing the location of the moon as it rose from the horizon, Palauans knew what lunar month they were in.

Since Palau is largely oriented in a north-south direction, during *eltel a ongos* fishing is poor on the eastern side of the islands. This means that communities had to rely more on land resources and preserved seafood, such as *uasech*, made by boiling down the broth left over from fish soup into a thick paste. Naturally, the same was true for the western side of the islands during the *eltel a ngebard* winds. However, no matter where one lived, the *ngebard* season was ideal for collecting invertebrates as its extremely low tides allowed people to walk out onto the reefs during the daylight hours.

Traditionally, people lived in discrete villages throughout these islands. Their diet consisted primarily of fish, a variety of marine invertebrates, coconut and cultivated taro. Politically, each village was governed by a council of 10 male chiefs and their female counterparts. This allowed for close contact between the governors and the governed and for tight controls over the activities of the community. However, relations between villages were often hostile, and each village's history is peppered with incidents of small-scale wars. This meant that while there was some degree of contact, villages tended to adopt self-sustaining practices.

From the sea, villages harvested a wide variety of fish and invertebrates, and on land, they cultivated taro and hunted Micronesian pigeon and, in some areas, fruit bat for their diet. Since a village generally encompassed a only small area that was considered safe, the inhabitants often had only a few square miles in which to farm, hunt and fish.

### Traditional Belief Structure and Practices

The Palauan belief structure was based largely on practicality and an extensive empirical knowledge of their environment. But as with the god Rak who carried the moon, Palauans believed that all they had was due to the beneficence of supernatural beings. This was extended to the realm of knowledge. Women did not learn on their own how to cultivate taro. A female demi-god Iluochel was sent as a messenger from the gods to teach women where and how to plant taro. The things they knew and the things they had were gifts from their gods. These legends, which explained the origins of things or practices and instilled the basic tenets of Palauan society, were passed down through the ages from parent to child.

One such legend is "The Story of the Little Pied Cormorant and the Reef Heron." In this tale, the Pacific reef-heron (*Egretta sacra*) who hunts only when the tide is low takes pity on the cormorant (*Phalacrocorax meianoleucos*) who always feels hungry and therefore hunts the whole day through. The heron guides the

cormorant to a reef where the fish are so plentiful that the cormorant can eat to his heart's content. But he warns that if the cormorant eats too much, he will not be able to fly home to land as the tide comes in. Naturally, the cormorant does not heed the wisdom of the heron and finds he begins to feel sick as they are flying home. The heron advises that the cormorant rest for a while before continuing on. When the cormorant eventually reaches land, he throws up the fish he has eaten over the course of the day. So despite the riches he has been given access to, he is once again hungry and has to begin the search for food again.

Another story talks of a gift given to the female demi-god Dirrachedebsungel who lived alone on the outskirts of the village Ngibtal. She is very fond of fish but her son Mangidabrutkoel often travels and the men of the village do not share their catch with her. So she survives on the harvest from a breadfruit tree that grows near her home. Mangidabrutkoel, sympathizing with his mother's plight, goes to the breadfruit tree and cuts off one of its branches. Water and fish flow from the stump, following the rhythm of the waves on the shore. However, the villagers nearby, jealous of her easy catch, cut down the tree in the hopes that they too can harvest fish from the tree. But so much water gushes forth that it inundates the village.

Both of these legends instruct Palauans in the ethics of conservation. The pied cormorant takes more than he needs to fill his belly, making himself so sick that he throws up all he has and ends up hungry again. In other words, despite his greed and gluttony, he finishes at the same place he began. "The Breadfruit Tree" also warns of the dangers of greed and jealousy. The villagers destroy a gift to the demi-god Dirrachedebsungel for their own personal greed. In doing so, they lose everything that they have.

Both stories demonstrate a fundamental principle that warns against greed. This ethic of taking only what one needs and not wasting what one has is seen time and time again in Palauan legends. Parents told the tales again and again to their children and to their grandchildren, so that by the time Palauans became old enough to fish and plant taro these tenets and knowledge were thoroughly instilled in them.

These tales were not simply the tales of men. These were the words of all-powerful and all-knowing supernatural beings and as such demanded the unquestioning respect of mere men. However, the gods relied on men to safeguard the resources they had bestowed on Palau. To ensure that practices remained sustainable, villages practiced a land and reef tenure system that gave the responsibility of ensuring that the area was not overharvested to a chief or an elder with significant knowledge of the ecosystem. In order to care properly for their environment, these men had to master an intimate knowledge of the land, reef, flora and fauna that were part of the region under their care.

When it came time for the men of the village to hunt Micronesian pigeon (*Ducula oceanica*), they would ask permission from the elder responsible for the area. He would be well versed in the ecosystem of the habitat -- for example, the mating and feeding habits of the pigeon - but before he could tell his village that they could hunt, he would go to "read the fields" (*mo menguiu or mesubed er a ked*). This meant that

the elder would beseech the gods, asking for permission to open the season for hunting pigeon. However, he did not expect a supernatural whisper in his ear. In order to determine whether the gods were giving their blessing for a hunt, he used his intimate knowledge of the pigeon's habitat to read the signs from the gods.

As his signals, the elder would look to determine whether the trees that pigeons fed on were fruiting, that the birds were not nesting and that they were plentiful enough to withstand a culling. This would be the time when the pigeons were the best eating. If the signs were positive, the elder would open the season on pigeons, and when the chief determined that enough pigeons had been taken, he would close the season.

Despite the care taken by the elders, changes in the weather or poachers sometimes reduced food populations to dangerously low levels. At those times, the chiefs would meet and agree to enact a *bul* or moratorium on the harvesting of that resource to give it time to re-establish itself without the harmful impact of the community. Once a *bul* was enacted, the community would be informed verbally and a woven coconut frond would be wrapped around a tree at the entrance to the village to inform visitors that a *bul* was in place. As nothing was written, visitors were thus warned to learn on their own the details of the prohibition before taking anything. The chiefs would impose fines on those who ignored the *bul*, but perhaps even more discouraging was the stigma of shame that violators brought upon themselves and their families. Those who refused to comply with the punishment faced banishment.

Thus when men were given a mandate to ensure that harvesting and cultivating in their designated areas of land and reef were conducted sustainably, they were answerable not only to their communities, but more importantly to the supernatural. Infractions against the gods could mean drought or the disappearance of their food resources. This unquestioning belief was corroborated by their solid knowledge about their immediate environment.

Traditional Palauans followed the rhythms of the land and sea -- they harvested and ate foods at the times dictated by the cycles of nature. The elders studied these cycles, and with this knowledge they guided their communities in following harvesting and cultivation practices that protected their limited resources for their children and their children's children. Thus the practices that were adopted always contained an element of giving back to nature or at the very least taking only that which would be used quickly. Waste was avoided.

One of the foods favored by Palauans was *ngimes*, the intestines of the *blaol* sea cucumber (*Stichopus variegatus*). The *blaol* collected from reef flats in the early morning before it has had time to ingest the sand from which it pulls nutrients. Villagers would cut open the *blaol* and remove the *ngimes*, in the process cutting the sea cucumber into pieces. They would then scatter the pieces over the reef in the belief that each would become another *blaol* that would live and reproduce. In other words, through the harvest practice, Palauans were increasing the population of *blaol* on the reef, albeit each was smaller in size.

In May, when it was always windy and sometimes rainy, the men would engage in *ruul* (leaf sweep) fishing in the shallow water of the reef flats during an outgoing tide. The *ruul* net was simply a rope with palm fronds strung to it like a wide skirt. The men would herd fish with the *ruul* into a small contained area, which appeared to the fish to be a solid barrier but from which, in fact, they could easily escape. As the fishermen collected their catch, an elder would go from canoe to canoe checking the size of each man's take. When he determined they had enough for their families, he opened up the skirt of the *ruul* to allow the remaining fish to escape.

Sometimes fishermen would use Derris root, called *dub*, to poison and collect reef fish, a practice now recognized to be detrimental to the environment. Traditionally *dub* was used during the *ngebard* season when daytime tides were low to ensure the poison did not become too diluted. Tied, smashed bundles of *dub* were taken to the reef bottom and squeezed. But chiefs, aware that *dub* could kill corals as well as fish, restricted the use of this harmful form of fishing to the times when a great amount of fish was needed for a village-wide ceremony. Even then, they would warn fishermen not to be lazy and place bundles under coral heads as they would surely kill the coral above them.

The absence of documented periods of famine indicates that Palauan ancestors were wise in their sustainable use of land and sea. This philosophy can be summed up by two common Palauan phrases: "*A rokul el tekoi a keremelall* (Everything is conserved)" and "*A klukuk a mei* (Tomorrow will come)." These phrases are still in common use today to remind one another that there is no need to take more than you need. Respect and esteem for a person or family was in part based on their ability to conserve and use every part of what they harvested from the earth. A frugal person, for example, would harvest coconuts, drink the juice, eat the meat and burn the husk and shell as firewood, leaving no part of the fruit wasted.

Palauans' eco-consciousness was motivated by a belief that they were being watched over by beings greater than themselves and a desire to survive in an extremely limited ecosystem. Through the legends and the instruction of village leaders, concepts of eco-consciousness were deliberately passed down through the generations. If we look at the Palauan language itself, we can see how far eco-consciousness was incorporated into Palauan society.

Words commonly associated with the environment all contain the word "*beluu*". Conservation is *kerremel a beluu* (conservation of the place); eco-consciousness would translate as *kerrekikl el kirel a beluu* (consciousness of one's duty or calling to the place); and social environment is *eltel a beluu* (wind of the place). *Beluu* is a catchall that is commonly used today to mean country, city, village, community or society, concepts that for the most part were introduced from outside in the past century. *Beluu* also includes the land, the sky, birds, fish and people, the world of the Palauans before ocean steamers and jets. All elements of life are included, indicating that Palauans saw themselves as a small part of *beluu*.

Clearly, Palauans of old were highly motivated to engage in practices that allowed them to live in harmony with their environment. They had a deep knowledge

and understanding of nature's cycles and an appreciation of the enormous negative impact that man could wreak upon the ecosystem. This was a knowledge built up by generation after generation. To ignore the rules set by the village leaders certainly led to fines and shame. But violations were not considered to be simply acts against one's neighbors, they were affronts to the gods. To act against the wisdom passed down from the gods could bring bodily harm upon oneself, one's family and even one's village.

This highly developed belief system had largely been developed without influences from the outside. As the 20th century approached, Palauan culture saw its greatest challenge as new concepts and new lifestyles tempted ambitious Palauans to abandon their traditional values.

### **A Century of Change**

While contact with foreigners occurred sporadically throughout Palau's history, it was not until the late 1800s that a foreign power set down roots in Palau, then referred to as the Western Caroline Islands, and forever changed the tapestry of Palauan culture. In 1885, Spanish missionaries settled in Palau, converting many Palauans to Christianity. Fourteen years later, Germany bought the Carolines from Spain following the latter's defeat in the Spanish-American War. Germany's primary interest in its new colony was economic, not religious, as it conscripted laborers to mine phosphate and to cultivate coconut palms for copra.

When the League of Nations gave Japan control of the Carolines following Germany's defeat in World War I, Palauans felt the first serious challenges to their traditional way of life. The Imperial Japanese government sought to make Palau a vassal state of its empire. To do so, it discouraged traditional practices. Young Palauans were given a low-level education that included instruction in the Japanese language and development of some trade skills, such as weaving baskets for commercial trade.

During this time Koror became the center for Japan's possessions and activities in the region. Thousands of Japanese flocked to Koror, which at its peak contained more than 60,000 people. With this influx and the increased importance of Palau as a regional center, the Japanese made a variety of improvements in Palau's infrastructure using the technology of the times. Electricity, paved roads, a water system, motor vehicles and motorboats were just some of the innovations which the Japanese brought. They also established small factories and plantations. Cloth, canned pineapple, cassava starch, copra and glass were among the products being produced in Palau for export.

In the process of creating their new business and governmental hub, the Japanese implemented what was probably the most destructive element of their tenure. They surveyed and mapped the land, systematically designating ownership to the government as public lands, to clans, and to individuals. This dealt a fatal blow to the traditional land and reef tenure system. Nonetheless, the Japanese governors originally made an effort to leave villages intact while developing their own factories, plantations,



and settlements. When the Japanese military began to fortify Palau in the 1930s, however, they began displacing families and villages from their lands, permanently disrupting traditional Palauan control over their land.

As World War II wore on and Japan's own resources began to dwindle, Palauans found their foodstuffs and products being diverted almost entirely to support Japan and its military. Palauans found themselves foraging for food in the jungles, and as the United States began air attacks, fleeing to the interior for safety. This broke down the land tenure system even further.

Following Japan's defeat, the United Nations gave the United States a mandate to rebuild and administer the Caroline, Marshall and Marianas islands, in order to prepare them to resume control over their own nations. Guam, a Marianas island, was not covered under this mandate, as it was already a U.S. territory. Part of the mandate was that the U.S. rebuild the destroyed infrastructure of these islands and aid the native cultures in developing new, democratic-style governments that would align themselves with Western sympathies. To oversee these activities, the U.S. established the Trust Territory (T.T.) government with Palau being one of its territorial districts. During the period of T.T. governance, Palau voted to become an independent nation and then formed governments for the nation and 16 states.

As Palauans had largely lived in isolation, however, a corps of men had to be schooled in the Western ways of government and economy in order to assume the mantle of power. This led to the provision of some Palauans with an education overseas. When they returned, most found relatively well-paid positions in the Trust Territory government.

These Palauans and the U.S. government personnel who were stationed in Palau were accustomed to exotic foods and amenities previously unseen on the islands. This gave rise to a demand for imported goods.

At the same time, a service industry was in the making, beginning with medical services. Then the U.S. carrier Continental Airlines, which had assumed the commercial air routes for Micronesia from Pan American Airlines in the 1960s, began promoting Palau's unique environment as a tourism destination. Dive shops, hotels, and restaurants catering to foreign guests sprang up gradually, primarily in the state of Koror. Unlike the commodities market, which focused on tangible items and used a lot of relatively unskilled labor, this service market required a high degree of skill and was capital intensive.

As these markets grew in size more personnel were needed. Some positions, such as medical personnel, were professional in nature, requiring extensive education. Some required proficiency in technology. Others simply required a willingness to work. At this time, however, the Palauan workforce was not equal to these needs. Few Palauans had obtained the level of education required for professional and skilled positions. Even fewer had been steeped in the work ethic of the Western economy.

In addition, Palauans who had obtained a higher education abroad found no

positions waiting for them when they returned that would use their acquired training or provide them with a commensurate income. Most of these individuals emigrated to Guam or Saipan, where the standard of living was generally higher, rather than accept the menial, low-paying jobs that were offered them.

The combination of these factors meant that many businesses began to rely on a largely imported workforce. Management-level and professional positions were primarily filled by Americans and Japanese who were more highly educated and proficient in the mechanics of democratic government and a trade economy. While most Palauans were fully qualified for blue-collar positions, managers found few seeking these positions and those who did proved unreliable. As a result, most of that labor was imported from the Philippines.

Fifty years after the initiation of the T.T., this trend is still largely in place. Since independence, however, more Palauans are returning home and the government has begun taking steps to open up positions in the work force to them. Two of these steps are stricter regulation of migrant workers and the passage of a minimum wage law on July 28, 1998, albeit with numerous loopholes.

### **Repositioning of Palauan Perspectives**

When the United States assumed its administration, Palau's traditional patterns of life had all but been destroyed. Deadly confrontations between villages were no longer a fear that confined community food harvesting activities to a limited area. Many resources had been damaged or destroyed by overharvesting toward the end of the Japanese occupation and by the air attacks and land battles as the U.S. Navy ousted the Japanese from Palau through a scorched-earth policy. In addition, many Palauans had been relocated to work for the Japanese. All these factors challenged the traditional government structure, which depended on close-knit communities for its success.

It was at this time that the United States came in with opportunities that proved to be even more disruptive to the traditional belief system. For example, when Palauans went overseas to obtain education, they were exposed to a completely different lifestyle. People went to work to earn the money needed to buy food to eat. They bought cars, air-conditioners, soft beds and other luxuries that had not been a part of the Palauan traditional lifestyle. When they returned, they brought a taste for the life they had experienced abroad. They went to work for the Trust Territory government, earning salaries that enabled them to obtain goods previous alien to Palauan homes.

This discrepancy in lifestyles was new to Palauans. Traditionally, while there had been a strict hierarchy of power and prestige, villagers had mainly enjoyed the same standard of living. Under the new system, Palauans who had not benefited from education and experience abroad were seeing their kinsmen living a more luxurious lifestyle. This set up a war of competition.

Those without the skills or education of their compatriots found low-paying, manual labor positions available to them. The concept of working 9 a.m. to 5 p.m. for

a low salary did not appeal to a population that had been accustomed to working only for what they needed.

For their part, many Palauans sought ways to make the money needed for a comparatively affluent lifestyle and still retain their pride and independence, rather than becoming enslaved to this alien market. Many turned to the only marketable skills they knew -- fish and shellfish gleaning. Exports of fish and shellfish grew quickly as locals began to harvest more and from areas they had previously left alone.

With new technology purchased with the money they received from exports, their ability to increase their catch was multiplied. Instead of using the *ruul* leaf sweep and loosely woven nets made from hibiscus bark, they used gill nets made from nylon. With speedboats, scuba tanks, spear guns and dynamite, they swept reefs that previously had rarely been fished. Where there had been territorial boundaries, Palauans from all villages now had relatively free rein to fish where they liked. Whereas previously, care was taken to avoid depleting valuable natural resources, harvesting as much as one's boat could hold meant a larger paycheck at the end of the day. Traditional practices and ethics fell into disuse.

Even at this time, there was recognition that resources were being depleted. As a Trust Territory, Palau was subject to the laws of the United States and laws specific to the region that were enacted by the T.T. government. For example, using dynamite or poisons to fish was illegal. But the laws that Palauans now were asked to obey had been developed in a distant country by a foreign government and they were enforced by a foreign presence. Many did not respect these laws or their enforcers, and violations were rampant. Often the U.S. officials who attempted to enforce them were threatened and consequently backed down.

Despite this state of affairs, the U.S. did not turn to the traditional leaders whose responsibility it had been to curb this type of behavior. The chiefs for their part were intimidated by the advanced capabilities and the wealth of their foreign governors, and many were hesitant to challenge their authority and lead their communities away from the technological and educational opportunities that were being offered. The U.S. administration compounded the problem by purposefully ignoring traditional leaders in its efforts to install its democratic system in Palau.

Palauans took leadership control gradually. They began in the 1950s with a unicameral legislature, the Olbiil Era Kelulau, that had powers of legislation but not of enforcement. This was followed in 1981 by a constitutionally mandated bicameral congress that had enforcement powers but was accountable to U.S. oversight. Palauans finally took the reins of their own governance in 1994 with the signing of the 50-year Compact of Free Association with the United States.

Palauans had learned the concepts of democracy in school and through the example set by their American governors and recognized the advantages of the system established by the United States and their government. Nonetheless, most of the elected leadership had grown up in families that respected traditional leadership. Perhaps as a result of this ambivalence, the level of allegiance to a democratic system

has come into question, as have the understanding of the responsibility of the individual and the accountability of the leadership that are necessary for democracy to succeed.

With traditional controls largely removed and new, untried systems of self-government and economy taking root in Palau, the social structure was in chaos. A vacuum of effective leadership existed at the most critical juncture, providing opportunities for the unprincipled to seek positions of influence and to make themselves rich. At the time most critical for Palau, there was a vacuum of effective leadership. This left opportunities for the unethical to make themselves rich and seek positions of influence. Food resources were rapidly depleted as development became the cattle call of those who were rising to power.

The eco-consciousness that had dominated behavior seemed to vanish from Palau's cultural mind. The age-old precepts that had required Palauans to act positively toward their environment were precluded by a desire to rapidly improve their standard of living. The elders whose responsibility it was to ensure that this state of affairs would not occur had faded into the background, making it easier for Palauans to abuse their own natural resources. The traditional leaders were still an important presence in the community, however. Although their roles under this new style of government had been defined as strictly advisory at the national level, they retained the respect of their communities. This still did not prevent the unprecedented depletion of Palau's environmental resources for the entire period of U.S. oversight.

### **New Challenges**

Since the Republic of Palau gained independence in 1994, the overriding concern of the national government has been to develop a self-sustaining economy before the year 2009. This is in response to the loss of the high level of subsidization of local government operations and programs during the U.S. period. Furthermore, under the Compact, which established independence, Palau is to receive about \$500 million. This is a tremendous sum, and goes a long way to helping the national government establish a firm base. Still, since Palauans have become accustomed to a comparatively high standard of living, if a healthy economy is not established by the unofficial deadline of 2009, the country may face economic and political crisis.

At the time of independence, Palau's economy was already centered around tourism, although still in a fledgling stage, with a 100-room luxury resort and 22 other hotels of varying quality. Guests of these hotels were guided through the thriving reefs surrounding the Rock Islands by a relatively high number of tour agencies, who sometimes competed intensely. Today this has grown to 34 hotels and motels, with a proportional increase in the number of tour agencies, licensed and unlicensed, struggling to win a share of the market.

Outside this industry, only a few other large-scale companies were in operation at the time of independence. Two were commercial fisheries and three were department stores. A number of small agricultural concerns provided the market with an increasingly wider variety of fresh eggs and vegetables. In addition, numerous

smaller companies were providing commodities, materials and services to keep this small economy growing.

Foreign interests have funded a high proportion of these firms, especially in tourism. In fact, all capital intensive concerns are the result of foreign investment with the exception of two, which started small and have since grown large. This situation is causing a high degree of concern regarding outside investors; despite their high visibility within the community, their pecuniary contribution to the economy is often not proportional to the revenues they collect. The common perception is that they are taking advantage of their historically longer experience in the trade economy to repatriate the bulk of their profits to their home countries. Unfortunately, this problem has been compounded by Palau's lax legal structure and the poor enforcement of the laws already on the books.

Despite this state of affairs, the current administration has pinpointed tourism as the most viable industry for Palau and is therefore encouraging its rapid development. Currently, there is heated discussion over whether to pursue mass tourism or the smaller but more lucrative high-end tourism. While all are in basic agreement that for the industry to be sustainable, high-end tourism must be developed, the unhealthy large-scale development that eliminates the possibility of significant Palauan involvement is continuing. To compound the problem, there is little to encourage large foreign interests to be good corporate citizens. This issue is one that must be dealt with in the next few years, as it is clear that the industry will continue to require a high degree of foreign involvement.

In addition, the administration is also promoting smaller industries, most notably in the agricultural sector. This is in part to help reduce imports, but it has also been pinpointed as area that is accessible to local business people as the capital required for startup is considerably smaller. The national government is providing subsidies to Palauans in certain sectors, such as egg production and vegetable farming. Improvements have also been made to local fishery operations in the outlying areas of Palau.

Development is the catchword of the day. Currently several projects are under way that have the potential to alter significantly the fabric of Palau's tourism industry. The national government is fueling these efforts by negotiating additional flights into Palau by such well-known international carriers as Japan Airlines. From 1995 to 1997, Palau saw an influx of visitors as three Japanese and Taiwanese airlines began to run regular and semi-regular charter flights. This was a significant increase in both number and access over the regular Continental Micronesia roster of daily flights from Guam and three weekly flights from Manila.

The year 1998 witnessed the most significant step toward mass tourism within the last decade, as the largest and highest-profile tourism development facility to date opened its doors for business on July 15. The Taiwanese-backed 165-room Palasia Hotel Palau is managed by Outrigger Hotels & Resorts of the U.S. and is expected to cause another rapid rise in the number of tourists to Palau. Construction has begun on a 400-room resort development on a hillside that leads down to a mangrove area on the

outskirts of Koror, following revision of its first environmental impact statement. Another, even larger development involving more than 1,000 rooms has been in the planning stages for about a decade. This would in essence be a resort community, complete with hotels, condominiums, restaurants and a private man-made beach. If either of these projects is completed, the die would be cast -- Palau would become a mass tourism market.

The development that poses the greatest challenge to Palau, however, is the construction of a single piece of infrastructure away from Koror. As part of the Compact of Free Association, the United States agreed to construct a 53-mile asphalt-concrete loop road around Palau's largest island of Babeldaob. Once completed, the new road will open up areas that are currently only accessible with off-road vehicles or boats. Thousands of people currently residing in Koror are expected to build and settle in their home villages, and new developments are anticipated in hitherto pristine areas.

With economic growth, the need for foreign labor continues to increase. As of a census in 1995, the balance stood at 13,120 Palauans to 4,105 foreign residents in a total population of 17,225. Most reside and work in the Koror area, straining Palau's limited infrastructure. Transient population has also increased as overall visitor arrivals surged by 40 per cent from 44,073 in 1994, before the onset of regular charter flights, to 73,719 in 1997.

All these factors are already placing excessive stress on Palau's fragile ecosystem. Women are noticing increased siltation in their taro patches as runoff increases. Fishermen are reporting decreases in their catch and in fish size. Changes in the ecosystem in Koror's port area due to increased algae growth commonly attributed to sewage outflows have virtually closed these traditional fishing grounds for gleaning. Across the board, Palauans are aware that the rapid development of recent years is beginning to show significant ecological costs, but their responses are varied.

### **Current Responses**

Many Palauans feel that development, especially in tourism, agriculture and fisheries, poses the greatest threat to the environment. Others hope to promote development in a manner that will provide people the economic wherewithal they need without destroying the balance of nature. Still others believe that the environment must be sacrificed to a certain extent in order to achieve much-needed development.

While many are willing to turn a blind eye to the warning signs of an ailing environment, almost all agree that the current nature of development is not as it should be. The national legislature has responded with a variety of legislation to try to curb the negative impact of development. For example, some of the bills currently under consideration would impose controls on the tourism industry to encourage sustainable activities, such as catch-and-release programs for sport fishing, a moratorium on reef fish exports and recycling programs. While the fate of these bills is hard to predict, many of their predecessors, although well intentioned, often did not meet the need that spawned them. Some were poorly written, leaving violators with loopholes to

continue their destructive practices. Others were simply not strong enough to address the problem.

But the greatest problem is with enforcement. This is especially true in the area of marine activities. Currently, three national agencies share the responsibility of policing the waters of Palau: the Bureau of Resources and Development under the Ministry of Resources and Development; the Marine Enforcement Division under the Ministry of Justice; and the Environmental Quality Board. In addition, each state has people who police its waters, although the enforcement system is not formalized. The exception is the highly stressed area of Koror, which has a well-funded and equipped marine enforcement agency known as the Koror Rangers.

Each of these organizations has its own personnel and watercraft for their enforcement activities. But the area that they have to police is large, and the staff and boats are inadequate, with the exception of Koror State. In the period immediately following the turnover of enforcement powers to Palauans, the new national and state governments were not fully prepared to assume the responsibility of judiciously and effectively managing their resources. In addition, enforcement officers have often been lax in prosecuting offenders, even those who are known to be regular violators.

The history of the Ngerukewid Islands Wildlife Preserve illustrates many of these issues (Fig. 2). The reserve is located within the Rock Islands of Koror and considered to be pristine. In 1956, the Palau legislature established the area in and surrounding the Ngerukewid Islands as a conservation area. Enforcement remained the responsibility of the T.T. government, however. When the constitutionally mandated government took over this role in 1981, it had more on its table than it could effectively deal with.

It was not until 1989 that the Ministry of Resources and Development drafted a comprehensive management plan for the wildlife preserve. In the meantime, a single individual was hired to police the area, but in spite of his efforts there was considerable poaching of sea turtles (*Chelonia mydas* and *Eretmochelys imbricata*) and their eggs, megapode (*Megapodius laperouse*) eggs, coconut crabs (*Birgus latro*), giant clams (family *Tridacnidae*) and reef fish.

While Palau's first conservation area did not begin successfully, as the engine of government began to pick up steam, it eventually has taken control of this area and today it remains a pristine area within the heavily used Rock Islands. Most importantly, it set the stage for recent initiatives to maintain and preserve additional areas of Palau's unique and valuable ecosystem. In other words, the Ngerukewid Island Wildlife Preserve has served as an example of how a democratic Palau can take positive steps towards ensuring the continued bounty of their environment.

Interestingly, the states have offered some of the strongest recent responses to environmental problems, despite their being severely restricted by small budgets. Kayangel State at the northeastern tip of Palau in 1996 placed a moratorium on fishing along Ngaruangel Reef. This reef is a rich fishing ground even today. But residents, noticing declines in fish size and catch and hoping to develop the area for catch-and-

release sport fishing, acted to preserve this valuable resource. As a result, the chiefs of Kayangel placed a *bul* on the reef, which was shortly followed by a state law that reinforced their action. Yet despite this foresighted action, Kayangel's traditional leaders and state government are faced with a lack of resources to enforce the law against violators from out of state.

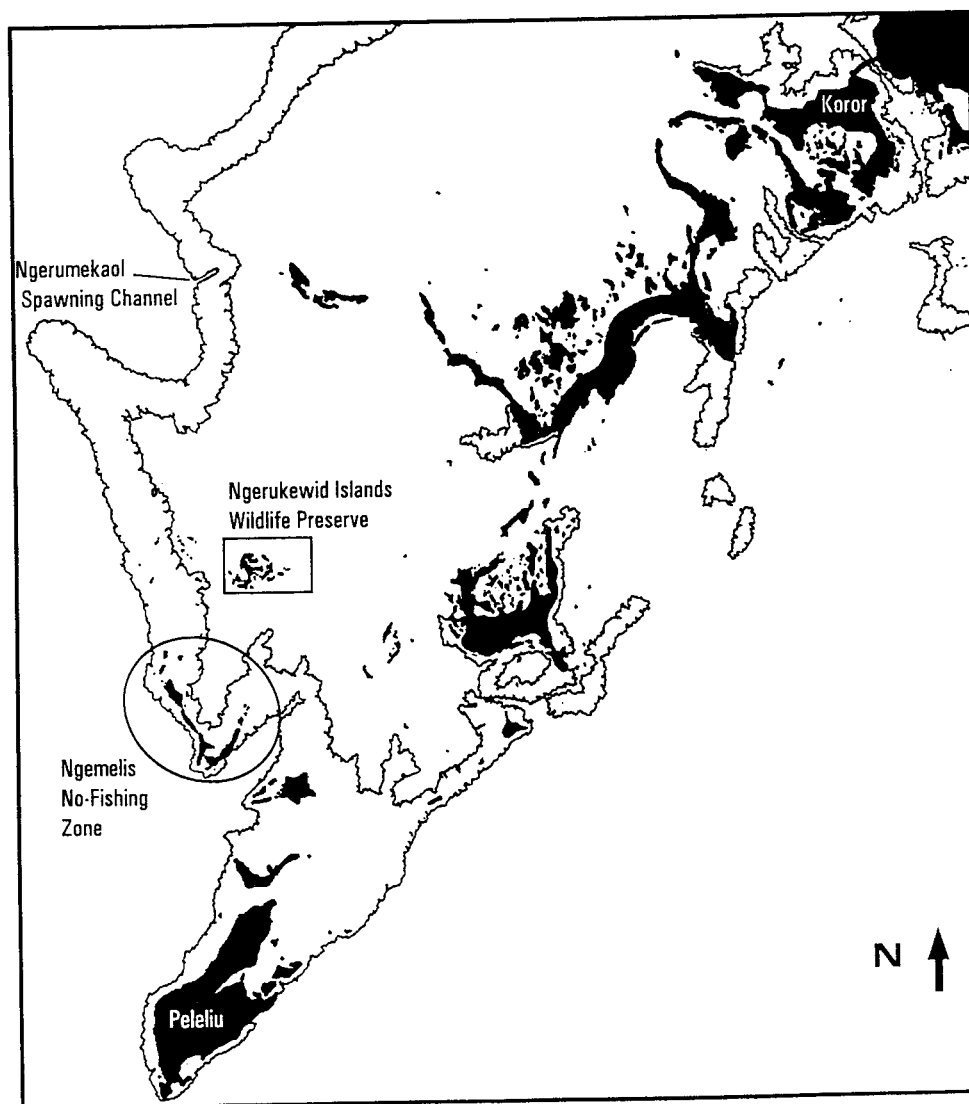


Figure 2. Koror State Conservation Areas.

Similarly, in 1995 Koror State established a ban on fishing in a section of the Rock Islands surrounding the island of Ngemelis renowned for its superlative diving and snorkeling. The prohibition is intended to maintain fish stocks, thereby preserving Palau's best-known tourist attraction. As the number of tourists has increased, however, congestion has already become a problem on certain sections of the reef. Rational management is handicapped by a lack of empirical data to establish a



yardstick for diver impact on this area. Koror State and a non-government agency, the Palau Conservation Society, are working together to develop a methodology to ensure that this valuable resource will not be lost forever.

These kinds of actions have discouraged activities that threaten the environment, but in recent years, some agencies have taken these efforts a step further. The Bureau of Natural Resources and Development has engaged in numerous studies to gauge the impact of development on the environment, culminating in the 1994 National Environmental Management Strategy. In 1996, the President's Office established a task force on population to evaluate long-term immigration goals. The Palau Visitors Authority last year held a forum among top government officials and private-sector interests to establish long-term goals for development of a sustainable tourism industry. All these studies complement an overall strategic policy called the National Master Development Plan. This plan, which outlines policies for all sectors of the government, took a decade to compose and was officially adopted by the national government in 1997. The plan proposes steps to help Palau develop a sustainable economy while at the same time respecting its environmental resources.

In addition, some government agencies are acting proactively at the grassroots level to encourage environmentally responsible behavior. Notably, the Environmental Quality Protection Board (EQPB) and the Division of Cultural Affairs have been engaging in outreach programs to explain the impact of negative activities on the environment in order to increase grass-roots knowledge of the ecosystem and revive an awareness of Palau's rich cultural past. In particular, the Division of Cultural Affairs has brought together some of Palau's living resources -- the Society of Historians -- to record in two volumes some of the stories, legends, laws and their underlying principles that provided guidance to past communities.

During the past three years, the EQPB and the Palau Visitors Authority have engaged in coastal cleanup programs aimed at giving high school students an increased understanding of the negative impact of waste upon the marine ecosystem. These programs are intended to instill in these young citizens community values concerning the environment that will stem destructive behavior before it becomes rooted.

These efforts are being supplemented by non-governmental organizations in the community that often respond to environmental issues at a grassroots level. The most organized and visible of these is The Palau Conservation Society (PCS), established in 1994. With its small staff and contributions from the community, PCS conducts its own monitoring programs, engages in scientific studies to set baselines for measuring the effects of development and, most importantly, engages in educational programs for the youth of Palau. Ultimately, its stated goal is to work with national and state governments to promote sustainable development. Most recently, it has been involved in increasing awareness in the communities about the environmental impacts of the 53-mile Babeldaob loop road and major resort development projects. By simply translating the sedative environment impact statements into language that the community can respond to, the PCS is acting as a liaison between developers and the community, hopefully bringing the developers' plans in line with informed community expectations.

At an even more grassroots level, many neighborhoods have women's and men's groups, remnants of the traditional leadership structure. When they get together, they usually discuss family and customs or simply the news of the day. At times, however, these groups have played an essential role in assuring that developments do not destroy their food base. In the 1980s, when the 1,000 room resort complex was proposed in the Ngesaol area, women who collected shellfish and sea cucumbers on the reef flats of the area to supplement their family diets led a protest against the plan. As a result, when the U.S. Environmental Protection Agency finally approved the environmental impact statement for the project, it included amendments that the mangroves and reef flats must remain intact. Although the project is still on the table, the first stone has yet to be turned.

Yet while there are sporadic and isolated incidents of effective, collective efforts to protect the environment, Palau has still not gotten control of the reins of development. The problem is largely one of adaptation to new lifestyles, new technologies, and new threats to the ecological balance. This requires linking new knowledge of ecological processes to local and traditional values. In the hearts of Palauans, there is still a great love and respect for the environment. Unfortunately, for many, that love is not currently matched with an understanding of the irreversible havoc that development can wreak on the ecosystem.

### **Conclusion**

Palau has already turned down a road from which there is no way back. Palau will never again be a solely subsistence-level economy. A return to the old ways is impossible. Most of today's Palauans have only a nominal awareness of the traditional belief system. In any case, the old ways would not have been equal to some of the issues that Palau faces today, such as the bulldozers churning up the soil and increasing the danger of siltation. This cannot compare with the days required to cut a single tree with a seashell axe. But the culture's respect and understanding of the natural environment survives, together with a basic desire to see that the ecosystem is not harmed.

There are rhythms and a logic to our traditional values that Palauans can identify with and respect. Although they were supplanted in the postwar years by a desire for profit and a higher lifestyle, goals that still motivate many today, there has been a resurgent interest in traditional culture. The formation of the Society of Historians and the publication of some of the stories and legends that have been passed down provide hope that Palauans can return to positive practices toward the environment.

Nevertheless, Palau is still reacting awkwardly to the problems that arise. The controls that our ancestors had put in place to encourage responsible behavior and prevent resource depletion are evident in today's system of government, but they are not strong enough to address present problems. In addition, the homogeneity of values is weakened by an increasingly immigrant workforce. As the population diversifies, its strength of purpose is also diluted, making collective efforts at environmental preservation even more difficult. Nonetheless, the development of a new approach that

combines traditional wisdom with Western science could be an effective tool to deal with today's environmental challenges.

Hope lies in the various studies conducted by the national government to ensure sustainable development. These reports draw not only on the wealth of traditional knowledge but also on the expertise of other nations that have experienced the issues we now face. This blend of tradition and expertise, converted into national legislation, could lead to a more sustainable, positively motivated economic structure.

The clock has been ticking for quite some time, however, and time is running out. Palau as a nation must move quickly to align its development with sustainable environmental practices before its resources are destroyed.

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