



MICRONESIAN SEMINAR  
P.O. Box 160  
Pohnpei, FM 969 41



**Micronesian Counselor**

November 20, 2004

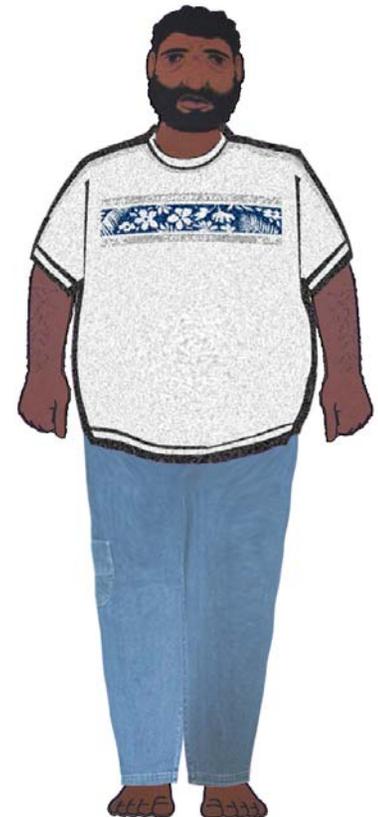
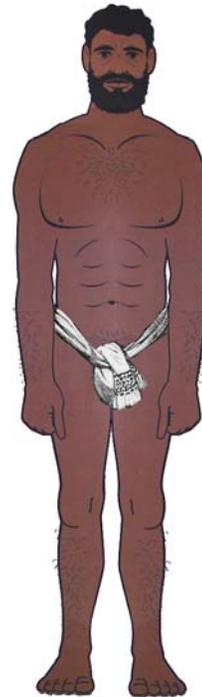
Issue 53

# Health in Micronesia

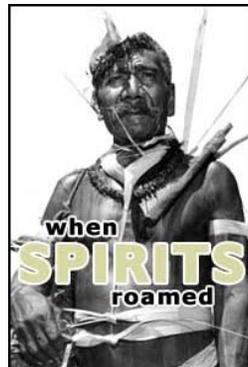
Over

the

Years



Visit our photo albums online  
at [www.micsem.org](http://www.micsem.org)



*Francis X. Hezel, SJ*



## Introduction

**M**icronesia is an elastic term as it is used for the islands in the Western Pacific just north of the equator. In this presentation we will be using the term to refer principally to the Caroline Islands (comprising what is now the Republic of Palau and the Federated States of Micronesia), the Marshall Islands, and to a lesser extent the Mariana Islands (which includes both Guam and the Commonwealth of the Northern Mariana Islands). All these islands have a history of political association with the US that dates back at least to the end of the Second World War, and much earlier in the case of Guam. The influence of Western cultures on these islands extends much further into the past—to the mid-nineteenth century, at least, when American whalers began making regular stopovers for rest and refreshment and American Congregationalist missionaries first found an audience for their preaching.

In truth, we know almost nothing about the health of Micronesian people before this time other than what little can be inferred from prehistoric human remains and genealogies. How adversely the pre-contact conditions in the islands affected the health of islanders is unclear. Life for Pacific Islanders may well have been “nasty, short and brutish,” as Hobbes suggests it was for his European ancestors. This we do not know. But we do know that sustained Western contact, especially during the last two centuries, impacted greatly on health conditions in the islands, both for good and for bad. This is the story that I propose to outline in this presentation.

## The Era of the Epidemic

**A**s Western sailing ships reached the islands ever more frequently during the nineteenth century and contact between Micronesians and Westerners became more intensive, notable depopulation occurred owing to the diseases introduced from abroad. There are numerous examples of this. When the American whaler *Delta* came to anchor off Pohnpei in 1854, it put ashore two of its crew members who had contracted smallpox during the voyage and buried another.



The suicide rate has risen to four or five times what it was in the early 1960s. (See Figure 6) Everything considered, perhaps a little more modernization would not hurt at this point in Micronesia's history. It might permit the transitional time necessary to push beyond the suicide crest that has continued for the last 20 years, as it might provide the time and resources to address effectively the serious problem of mental illness. It might also increase the capacity of our health systems both to remove the danger of those infectious diseases that remain a threat to the health of the population and to stem the growing tide of non-communicable diseases. Time would permit the Third Generation to come to full adulthood, armed as they are with a firm understanding of the health hazards that modern life presents and with the determination to avoid the excesses of the past.

\* \* \* \*

## Videos

### Preserving Our Natural Heritage

This video looks at three main ecosystems in Pohnpei—the upland forest, the mangroves, and the coral reef—and examines what is happening to each of them. It documents some of the environmentally-friendly programs and projects that are now in place, and discusses ways each of us can do our part to help preserve Pohnpei's natural heritage. (This video is also available in Pohnpeian)



### Beyond the Spoken Word

Once land rights were too important to be entrusted to a piece of paper. Now they're too important not to be. This documentary explains why, and what the Marshalls can do about registering land.





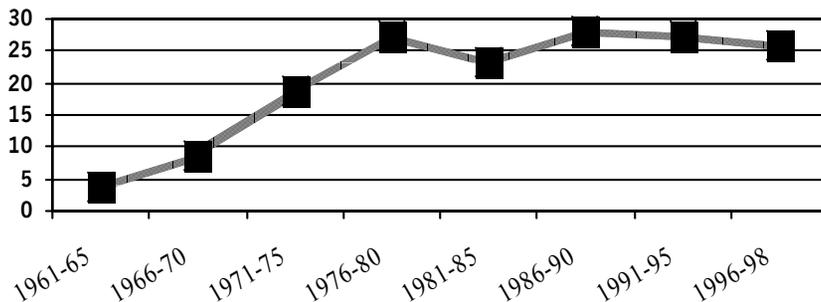
some of the worst of the infectious diseases, just as it has lessened the risks of childhood and reduced the infant mortality rate. The forces of modernization, in recent years, have also checked the runaway population growth of earlier decades. Gross fertility rates have been dropping everywhere in Micronesia over the past 30 years, although the heavy emigration flow of recent years has had an even larger impact on population size in FSM and the Marshalls. (See Figure 5) Island population growth rates are now very low—no more than a fraction of one percent a year, much lower than the current growth rate in the US. The same forces of modernization, nonetheless, are responsible for the hypertension and high blood sugar rates that are troubling so many of

**Figure 5: Fertility Rate (Average Births)**

	Palau	Marshalls	FSM
<b>1973</b>	6.6	8.4	8.3
<b>1980</b>	4.2	7.9	7.3
<b>1989</b>	3.1	7.2	5.6
<b>1994</b>	2.8	5.7	4.6

Micronesia’s adult population today. Even beyond this, those forces have contributed to what appears to be a higher prevalence of mental illness today, with males showing far higher rates than females. Suicide, too, has escalated among young Micronesian males since the 1960s to the point that suicide has become the main cause of death for young men in the 15-25 age group.

**Figure 6: Micronesian Suicide Rate (per 100,00) 1960-1998**



Pohnpeians promptly stripped the diseased men of their clothes and, according to one version of the tale, dug up the body of the other. The result was a severe outbreak of the disease, which raged through the island for several months, despite the efforts of an American missionary and physician to control the epidemic. Eventually the disease claimed about 4,000 lives, or about 40 percent of the island’s population. Two years later smallpox struck Guam and had an equally disastrous effect there. The Guam population, which was originally about as large as Pohnpei’s, suffered about the same number of deaths that Pohnpei had.

---

***Reports from this period chronicle in some detail the yearly outbreak of what came to be called the “disease of the ships”.***

---

Just about the same time, a terrible influenza epidemic broke out on the neighboring island of Kosrae killing 300 people. This, as it turned out, was just the beginning of Kosrae’s health problems, since one epidemic followed another throughout the mid-1800s with devastating consequences. By the end of the century, Kosrae’s population had dropped from 3,000 to a mere 300, so that the island suffered a 90 percent loss of population in just 40 years. This rapid depopulation on Kosrae paralleled the precipitous population decline in the Marianas two centuries earlier, when the number of Chamorros plummeted from 40,000 to 4,000 in an equally short period. The depopulation in the Maraianas, because it coincided with a period of long guerrilla warfare between the colonizing Spaniards and the islanders, is erroneously attributed even today to guns and powder rather than to the burden of foreign-borne disease to which islanders had developed no bodily defenses.

Reports from this period chronicle in some detail the yearly outbreak of what came to be called the “disease of the ships,” the epidemic of influenza or some other communicable disease that inevitably broke out after the arrival of the annual Spanish galleon.



Meanwhile, in the Marshalls similar disasters were beginning to occur. In 1859, the year in which the first resident foreign traders were landed in the Marshalls, an outbreak of influenza took so many lives that the Marshallese didn't know what to do with all the bodies. Missionary accounts tell of people wrapping the bodies in mats and affixing small sails to them before pushing them out to sea to be carried off by the wind. A measles epidemic struck two years later, just as the influenza was recurring, and in 1863 a virulent attack of typhoid fever broke out. Within four years, three epidemics had taken a couple hundred lives on only one or two islands of the Marshalls.

An added problem was what Europeans of that day sometimes called "the pox"—that is, venereal or sexually transmitted diseases. With the rapid increase of Western ship traffic to the islands, girls could easily be found to provide sexual favors for the travel-weary crew. In the Marshalls, gonorrhea was called the "chiefs' disease," so prevalent was it among the chiefly class. This was because the chiefs got their pick of the young girls they wanted, including the comelier ones who were more likely to be infected by Western sailors. Missionary letters and ship journals are filled with descriptions of people disfigured by these diseases—the woman without a nose who was to be seen walking along the roads of Pohnpei, and a Marshallese man who had lost his male organ. Because these diseases were rendering people infertile, the birthrate dropped precipitously, with no more than one or two births a year recorded on some islands.

Between the scourges of "the pox" and other epidemics, mortality was increasing and the birthrate falling close to zero. Noting the effects of these diseases, Westerners residing in Palau and Yap predicted the extermination of the population. "The weak, deteriorating natives will not be able to resist the advances of civilization. Before long the last Micronesian will have disappeared," the German trader Alfred Tetens prophesied.

This may have proven to be an exaggeration, but it was still uncomfortably close to the truth. During the nineteenth century the population drop in Micronesia could be estimated at between 30 and 40 percent overall. (See Figure 1)



**Figure 4: Infant Mortality Rates**

**Deaths per 1,000 births**

<b>Marshalls</b>	<b>26</b>
<b>FSM</b>	<b>25</b>
<b>Palau</b>	<b>11</b>
<b>US</b>	<b>7</b>

This is reflected in the infant mortality rates in Micronesia which, although declining, are still much higher than in the US and other Western countries. (See Figure 4) Efforts to immunize children against major infectious diseases (measles, hepatitis B, pertussis, polio and mumps) have met with considerable success in recent years. Nearly all children in Palau under the age of two are immunized, and the immunization rates are high in Yap and Kosrae as well. By way of contrast, only two-thirds of the babies receive immunization in Chuuk, Pohnpei and the Marshalls. The rates of leprosy and tuberculosis are still high in some places, and there are occasional outbreaks of other infectious diseases. Cholera has broken out in Chuuk, Pohnpei and the Marshalls during the past 20 years, while dengue fever is an occasional problem in some of the major islands.

Meanwhile, much of the population is troubled by high blood sugar and hypertension, and so are subject to the threat of heart disease, stroke and diabetes, not to mention the kidney complications that often accompany them. Thus, the island health system is burdened by having to deal with both types of diseases: infectious diseases of the past, and the non-communicable diseases of modernization.

**The Mixed Blessings of Modernization**

**A**s modernization gives, so it takes away. The dreadful epidemics of the nineteenth century are unimaginable in our day, thanks to new vaccines and other medical improvements. Modern medicine has checked the damages of



classical division worldwide. The first stage, which began with foreign contact and continued through the years following World War II, could be called the First Generation. These older Micronesians, still rooted very much to the land and producing their own food for

---

***Slimness is back in style, with women dieting and joining weight watchers groups to keep the pounds off, and men weighing themselves regularly.***

---

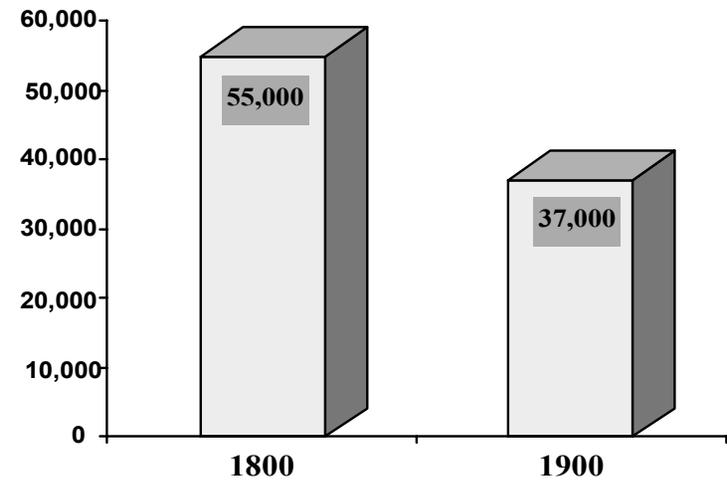
the most part, had the health problems of any traditional society: infectious diseases, respiratory illnesses, gastrointestinal disorders and the problems associated by poor sanitation. The post-war babies who were raised on Spam and rice comprised the Second Generation. This is the generation, rather well off when compared with their parents, that suffers from heart disease, stroke and diabetes. The Third Generation is the one emerging today, the population cohort that has inherited the health problems and early deaths of the past three decades. Many of this group, better educated than their predecessors and painfully aware of the legacy of disease they have received, have taken steps to do something about these health problems.

Many have quit smoking or decided not to take it up; they shun the all-night drinking parties that their elders were so fond of, preferring instead to make do with a glass or two of red wine. They are also conscious of the importance of making time for regular exercise. On a trip to Palau a few years ago I was amazed to see some of my former students, by then in their 50s, on the basketball court or jogging along the road. Never would I have seen that twenty years earlier.

Slimness is back in style, with women dieting and joining weight watchers groups to keep the pounds off, and men weighing themselves regularly. Fortunately, there is a new health consciousness among the young in Micronesia, even if its dividends are still to be recorded. Today Micronesia still faces the lingering effects of the older disease burden, while trying to cope with the onslaught of the new illnesses associated with a modern life style. Infant malnutrition, while on the decrease, still represents a serious problem.



**Figure 1: Micronesian Population (1800-1900)**



### ***The Arrival of Western Medicine***

The annexation of the islands by foreign powers in 1885-1886 initiated a century of colonial rule. Intermittent but frequent contact with Westerners during the nineteenth century yielded to regular contact with administrators, teachers, and agents of foreign business firms. When the German flag replaced that of Spain in 1899, the first organized attempt to provide health services for islanders was begun. The German administration brought in Western medicine, opened the first hospitals in the islands, and stationed doctors on Pohnpei and Chuuk.

In addition to treating the usual periodic outbreaks of infectious disease, the administration had to cope with severe epidemics such as the dysentery outbreak that claimed 500 lives in the Marshalls in 1907-1908 and a serious tuberculosis epidemic in Yap. Japan, which took over the German island possessions in 1914, made further improvements in health services by expanding the hospitals, assigning a permanent medical staff to each



major island group, and offering services to the outer atolls on regular field trip visits. The administration also established leper colonies to deal with the growing number of cases of Hansen's Disease. While these efforts checked the devastating effects of epidemics, no real growth in the local population was registered during the 30 years of Japanese rule. World War II, which ended the period of Japanese administration in the islands, resulted in surprisingly few deaths from military action, everything considered. Ironically, the lasting effects of the wartime privation on the general health of the Micronesian population were far less severe than were the effects of the times of plenty that followed.

When the US Navy conducted a health survey of the islands after the war, it found intestinal parasites, yaws, tuberculosis and skin diseases widespread.

---

***As a result of their efforts, they were able to arrest the population decline everywhere but in Yap, where the fall continued for another 50 years***

---

This was not surprising in view of the contaminated water and unsanitary conditions that prevailed. Yet, overall, their survey "presented a summary picture of excellent health." This might have been a fair assessment of the surviving population, but even the Navy team noted that the death rate the year before its arrival was 45 per thousand, much higher than the death rate in the US even during the war years.

The survey team also noted the almost complete absence of malnutrition or obesity—an observation confirmed by the photos taken of islanders, nearly all of whom could be described as "lean and mean." The survey found no indication of diabetes. A blood pressure study conducted on Pohnpei during late 1940s showed almost no hypertension, and it was suspected that the same was true of other islands in the area. Throughout the next 20 years of slow growth in the US-administered Trust Territory, the health conditions in the islands were largely unchanged. In the early 1960s, when I first arrived in Chuuk, most of the patients at the hospital were being treated for so-called traditional diseases: gastrointestinal conditions, parasites, respiratory diseases and infections.



This was, in local thinking, a balanced diet, even if no other food groups were represented. As Micronesians put on more pounds, figures filled out, and bellies became rounder, there was initially no cry of dismay from oversized islanders as they looked at themselves in the mirror.

Pacific Islanders, like Europeans of a former age, regarded corpulence as a symbol of prosperity, with the result that early European naval captains claimed they could recognize chiefs simply by their size. Chiefs, by virtue of their title, were supposed

---

***Micronesians would have agreed fully with Asians that only "mad dogs and Englishmen" would venture out in the noonday sun, especially for something as ridiculous as exercise.***

---

to eat well and engage in little physical labor (as their uncalled hands might testify). Fleshiness was not just a symbol of prosperity, but a sign of beauty as well. Chuukese men, I remember being told years ago, had a taste for women with legs like a tuna fish. But they were not alone in this. The predilection of islanders everywhere in Micronesia did not seem to run toward spindly-legged women with anorexic figures, I noticed. Even so, there evidently were few in traditional society who conformed to these ideal proportions, as a quick glance through old photos of the islands would reveal. Few Micronesians living a hundred years ago could be called overweight, and the few who were—such as the Palauan Ibedul in the 1880s—presented a striking contrast to the general population and were remarked on for their size.

So it is that we find ourselves in our paradoxical situation today with regard to islander body size. On the one hand, many infants are showing abnormally low weights in early childhood. On the other hand, an increasing number of adults are overweight, with many plainly obese. Nutritional imbalances, at birth and in adulthood, are making islander people a target for disease at both ends of the life cycle: malnutrition in its various forms early on, and non-communicable diseases later in life.

### ***Three Generations of Micronesians***

In our review of health and illness in Micronesia, we have witnessed two stages of disease burden corresponding to the



### The Cultural Factor

If the change in lifestyle and diet brought on by the relative affluence of the post-1960s era constituted a serious health risk, many of the traditional island practices and attitudes only compounded the problem. To walk for exercise when one could ride by taxi or motorboat was looked on as silly. Even those who felt the need for regular exercise were inhibited by the local disdain for physical exertion.

Micronesians would have agreed fully with Asians that only “mad dogs and Englishmen” (read “Americans” here) would venture out in the noonday sun, especially for something as ridiculous as exercise. Hence, the handful of Chuukese women who sought exercise but wished to avoid the scorn of their fellow islanders took the airport runway after dark to avoid being seen.

---

***Two of the consequences of the disease have apparent lately; death due to renal failure has been on the rise, as have limb amputations. There is no doubt that the “sugar sickness,” as islanders call it, is one of the major health problems in the islands.***

---

Male joggers woke up early and got their run in before the sun rose for the same reason. The traditional attitude to food stemmed from the “feast or famine” lifestyle of a society of hunters and gatherers. The genetic predisposition of islanders to diabetes may stem from the same source, at least if you embrace the “thrifty gene” theory. Certainly the cultural mindset—that is, eat it up today while it’s here, for tomorrow there may be nothing to eat—did not encourage abstemious eating habits. Food, for the Micronesian, fell into two categories: starch and protein (*mwongo* and *seeni*, in Chuukese and related languages).

Vegetables were not normally eaten as separate dish, but carbohydrates such as taro or sweet potatoes might be wrapped in taro leaves and cooked with greens. With the transfer to Western foods, lunch could consist in a can of corned beef or Spam and a large bowl of rice with soy sauce.



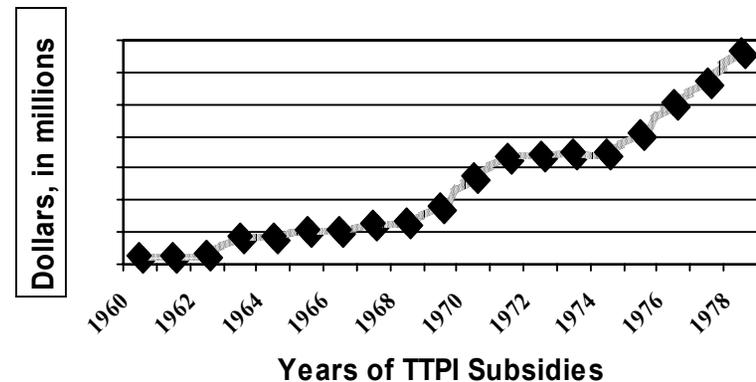
The Chuuk hospital, like the hospitals in other places, had both a TB ward and a leprosy ward, reflecting two of the major health problems in those days. There were still occasional epidemics, some of them quite serious, like the polio outbreak in the Marshalls in 1962 that left 190 persons crippled, and the measles epidemic in Chuuk that took several lives, including that of a former student of mine who contracted encephalitis. Still, it seemed that infectious disease was gradually being brought under control and that the era of the scourge of epidemics was all but over.

### The Crippling Affluence of the Modern Era

The rapid socio-economic changes dating from the Kennedy Administration in the early 1960s changed all that, as we would soon learn. The annual US subsidy to the islands, a lean \$6 million in 1962, was doubled and redoubled again throughout the remainder of the decade.

From \$60 million in 1970, it escalated still higher during the next several years. With the increase in US subsidy came an expansion in the number of salaried employees—from 3,000 in 1962 to 18,000 fifteen years later. Meanwhile, the salaries grew even more rapidly, with per capita Micronesian income rising from \$60 to \$400 during the same period. (See Figure 2)

Figure 2: U.S. Subsidy (1960-1978)





The huge influx of money introduced significant changes in lifestyle, of course. The new access to cash made imported foods, once prohibitively expensive, affordable to many Micronesians for the first time. Life was also becoming less strenuous than it had ever been before. The widespread use of kerosene stoves, for instance, especially after the typhoon of 1971 in Chuuk, made it unnecessary to search for and cut firewood. Cars and taxis multiplied on the roads in town, with the result that people were walking much less. Even in more remote places, paddling canoes were giving way to motorboats.

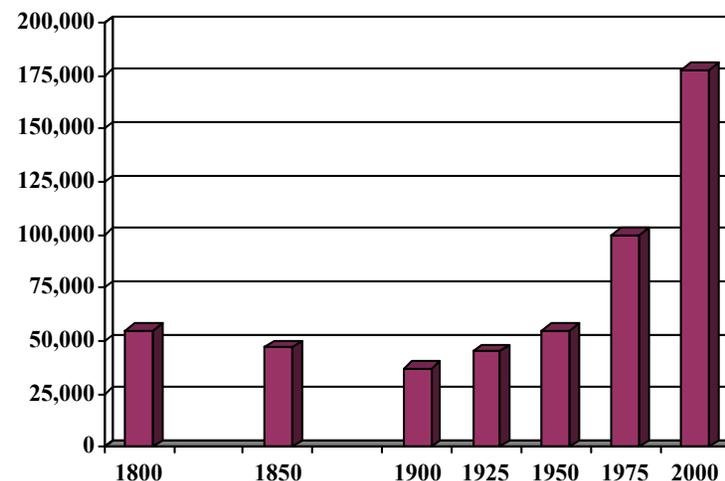
Overall, changes in lifestyle were making it possible to dispense with many of the types of bodily exercise that had once been part of the Micronesian way of life. As the local diet changed, new nutritional problems surfaced. Infant malnutrition seemed to be a more common occurrence, perhaps partly owing to the growing popularity of bottle-feeding infants. Parents or care-givers unfamiliar with the nutritional needs of small children were cutting the formula for powdered milk to save money or substituting punch or Kool-Aid for milk. Others were replacing the healthy local foods once fed to children with white rice or junk food. Vitamin A deficiency was found to be a common condition in children, especially in Chuuk and Pohnpei. Doctors everywhere were soon recording abnormally low weights of infants.

Infants might have been smaller, but adults were becoming larger than ever, thanks to the shift toward a high-sodium, high-fat diet bulked up by less nutritious carbohydrates like white rice. In the years following the rescinding of the ban on alcohol in 1960, after-work and weekend drinking became a popular recreation for many islanders.

This, of course, only added to the new disease burden consisting of those non-communicable diseases that would become an ever larger health threat as the years passed. Meanwhile, however, the islands experienced an unparalleled population increase everywhere, with the population growing by more than 3 percent a year throughout the islands. (See Figure 3) The eventual outcome of changing lifestyle patterns was the rise in those health hazards



Figure 3: Micronesian Population (1800-2000)



associated with modernization that might be termed the “Big Three:” heart problems, stroke and diabetes. All three are linked with obesity, which has become a serious problem in the island today. About 80 percent of all FSM citizens aged 35-55, and a comparable percentage of this age cohort in the Marshalls, can be defined as obese.

This is double the rate of 38 percent obesity found in the population of the US. Hypertension rates among Micronesians in the same age group run to 35 percent, well above the 20 percent rate that is recorded for Americans. Diabetes, too, has become a major health problem in the islands. The FSM diabetes rate of 20 percent for the age group 45-55 is nearly triple the US rate of 7 percent for the same group. Rates are even higher in certain island groups: the Kosrae rate for 45-55 age cohort is over 30%, and in the Marshalls over half the population over age 50 are afflicted. Two of the consequences of the disease have been apparent lately; death due to renal failure has been on the rise, as have limb amputations. There is no doubt that the “sugar sickness,” as islanders call it, is one of the major health problems in the islands.