



A Brief Economic History of Micronesia

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PRE-COLONIAL TRADE

Pre-contact island societies produced what they needed to feed, clothe and shelter themselves; otherwise they would not have survived. Needless to say, the lifestyle of these societies -or what we might call their "standard of living" – was largely determined by the resources available to them. Hence, tools were made of shell and stone, houses were constructed of locally grown wood and nipa, and canoes were made of the breadfruit tree. Yet, even within what might appear to an outsider to be a fairly homogenous environment, there were localized skills and materials that could be exchanged among these societies. Such "luxury items" could be and were exchanged even before the arrival of the first Westerners. The outer islanders from the Ulithi-Woleai area, for example, traded the coir fiber rope and lavalavas that they produced for the higher grade turmeric paste and belts strung with spondylus shell that were made on Yap and other high islands. Yapese travelled hundreds of miles to Palau and the Marianas to quarry the limestone discs that they used as money. As in any trading relationship, these island societies sought articles that they could have lived without (and did live without at times), but which were desirable consumer items that conferred prestige on the owners. Consumption and status were interwoven in those societies then as they are today.

At the advent of the first Western ships, islanders were introduced to iron, a metal that was immediately recognized as more durable and stronger than the shell and stone then used for tools. Throughout this early period of intermittent contact with the West, iron was the most avidly sought item from passing ships. Western ships traded iron bars and hoop, sometimes even nails, for fresh food, labor and information. The establishment of the Spanish colony in the Marianas was an inducement to central Carolinians to make long voyages there to procure iron, which they frequently used as barter in their trade with the high-islanders of Yap and Truk in exchange for other commodities. Their trade in this valuable item strengthened their position as trading intermediaries in the area.

Iron was slower in arriving to some other islands than to others. When Duperrey visited Kosrae in 1824, he found that the people, who had no iron at all, were baffled by the metal fishhooks and iron hatchets he offered them. Ponapeans were almost as innocent of the use of iron as the people of Kosrae. On the other hand, the Mortlockese, who were visited by frequent passing ships, scoffed at iron bars when these were proffered by Lütke in 1828; they insisted on knives (preferably bone-handled), nicely made axes, tinder boxes, grindstones and lighters. Much the same could be said of the central Carolinians atoll-

dwellers who had carried on a brisk trade in ironware for many years.

Islanders everywhere soon developed more sophisticated tastes, just as the Mortlockese had. Iron products, especially knives and axes, retained their strong appeal to Micronesians, but cloth (serge and calico), other bits of apparel such as boots and hats, and manufactured products of all sorts soon become coveted items too. To obtain these wares, however, islanders generally found that they had to do more than supply a curious Western navigator. They could earn a regular supply of these goods only by engaging in systematic trade with Westerners.

China Trade

The earliest form of systematic trade in Micronesia was that carried on by the China traders from the late 18th century through the first half of the 19th century. This three-cornered trade was aimed at exploiting the rich China market. Trading captains, and later agents of commercial firms, carried Western goods such as ironware and cloth to the islands, where they traded these for beche-de-mer, turtle shell, shark fin or other products highly valued by the Chinese. They then exchanged their cargoes in Canton for teas, silks and other precious goods that could be sold at a handsome profit in the markets of Europe and America.

At first, itinerant trading captains sailed from place to place to complete their cargoes, but by the mid-19th century some – such as Cheyne, Woodin and Tetens – had established trading bases and residences on the islands. This trade was centered largely on the Western Carolines, particularly Palau, and on Ponape in the east, although some trading was done on the atolls in central Micronesia. Beche-de-mer, the sea cucumber that was used in making gourmet soups, was the principal commodity sought, but turtle shell and mother-of-pearl were also eagerly collected by these traders. The little that we know of the way in which the trade was carried on suggests that traditional rights and usages were respected. The trading captain obtained the services of a native recruiter who, through the chiefs, obtained local people to collect beche-de-mer and shell and process it. The recruiter was then given the goods with which to pay the laborers in accord with the traditional system. In Ponape, however, members of the resident white community often supplied the labor for trading captains and kept for themselves a good share of the profits.

In 1840 Ponape, which had a reputation as the best island in the Pacific for turtle shell, was producing about 500 lbs. of shell a year with a market value of \$2,500. The islanders were paid 3 lbs. of tobacco, or about \$1, for each pound of shell (worth \$5 on the world market). Beche-de-mer production is difficult to estimate, but one trader hoped to obtain nearly 100,000 lbs. from Ponape alone in less than a year. He never reached this goal, but if he had, he would have been able to sell his cargo at about \$20,000. It is quite possible that Palau and Ponape may have yielded this amount in a year's time, with about one-fifth of the total market value going to the islanders who collected and dried the beche-de-mer. The quantity and value of pearl shell collected on Ponape and other islands during this period is uncertain, but we do know that towards the end of the century about three tons a year were exported from Ponape. Overall, it seems that Ponape's total income from the China trade may have

been roughly \$4000 a year, with Kosrae's and Palau's amounting to somewhat less than this.

Whaleship Trade

The next major source of trade for Micronesians was with the whaleships that began fishing the waters near Ponape and Kosrae from 1840 on. As Ponape and Kosrae gained reputations as ideal ports for refreshment, whaleships in ever greater numbers laid in at these places for a few weeks while replenishing their food supplies and water. Meanwhile their crews enjoyed liberty on the islands. The peak of the whaleship trade occurred between 1840 and 1860, with Ponape receiving forty ship visits a year and Kosrae twenty or thirty during the height of this trade.

Whaleship visits were a source of considerable wealth for these islands during this twenty-year period in the mid-19th century. A visiting whaleship would typically pay the standard \$20 pilotage fee, usually to a beachcomber serving as a pilot. As the ship lay at anchor, crews would be sent ashore to fetch wood and fresh water, often with the help of local men. The water was free, but wood usually cost \$2 a load. Meanwhile, the islanders or the white residents acting as their agents would come aboard to sell fresh produce: yams and taro at \$2 a barrel and bananas and fruit at a comparable price. Fifty tons of yams and a proportionate amount of other foodstuffs were sold to whaleships each year during the 1840s, and this figure increased during the 1850s. Pigs, fowl and sometimes even cows were sold to the ship, when the supply permitted, although in time Mokil and other outliers began to specialize in providing fresh meat for ships. The recreational needs of seamen also provided an important source of income for these islands. On Ponape there were several ramshackle bars that served up coconut toddy and locally distilled rum. Guides could also be hired to lead seamen on hunting expeditions or shelling tours around the island. Above all, there were girls, brought to the ship by their uncles or husbands, who engaged in prostitution for a small fee in trade goods. Finally, when whalers became so fond of island life that they deserted, local men could earn the bounty of between \$2 and \$10 for the capture and return of a deserter.

On the basis of surviving account books from whaleships and price lists for commodities sold on these islands, we may suppose that a ship at anchor off Ponape or Kosrae brought in an average \$200 in trade goods per visit. Given the heavy traffic during the 1850s, we can estimate the annual income from the whaleship trade at perhaps \$15,000 for the eastern Carolines, with a little over half of this being spent on Ponape. Much of this income remained in the hands of the whites who acted as trading intermediaries on Ponape, and a great deal of the remainder went to the chiefs who arranged for the collection of provisions and provided for labor needs from among the commoners. Hence, the trade did not interfere at all with traditional prestige and authority systems. Tobacco, which was used by nearly everyone by this time, emerged as a medium of exchange; all trade items were priced by sticks of tobacco even if not actually paid for in this way.

Between 1840 and 1855 the total income of Ponape may have doubled from \$4000 a year to \$8000. One measure of the new affluence that had reached the eastern Carolines during this

period was that many of the women wore calico dresses and bonnets, while clay pipes were found everywhere. Other trade items had also gained popularity, especially firearms, and there were 1500 muskets on Ponape alone by 1850 – one for every fifth individual on the island.

Copra Trade

The final and most enduring step in pre-colonial trade was the establishment of the copra industry throughout the area (See Appendix I and tables). Shortly before 1850 coconut oil began to be widely used for the manufacture of soap and candles and its commercial value soared practically overnight. During the early 1850s whaling captains began stopping at islands to collect whatever coconut oil they could during their whaling voyages. With the arrival of Adolph Capelle and another German at Ebon in 1859, the era of the resident island trader began and coconut oil evolved into an industry in its own right. Within three years Ebon was producing 100 barrels of oil a year at a value of \$4500.

By 1870 traders were beginning to collect copra rather than coconut oil, thus eliminating the tedious and wasteful process of pressing the oil before shipment. This had the added advantage of furnishing companies with the copra cake that could be used in Europe as animal feed or fertilizer. The market price of copra at this time was so high that the large European firms that were just beginning to expand into the Pacific largely abandoned the China trade to concentrate on copra. Godeffroy and Son, the pioneer firm in the Pacific, was the first to establish a trading network in Micronesia; it had stations in the Marshalls, the eastern Carolines and Yap by the early 1870s. When the company went bankrupt in 1879, its holdings were taken over by another giant, Deutsche Handels-und Plantagen-Gesellschaft (DHPG). Eduard Hearnheim also began a company and entered the area in 1874, soon afterwards founding a string of trade stations that rivalled Godeffroy's. Capelle and Company, headed by Adolph Capelle, Anton DeBrum and Charles Ingalls, grew into a major competitor for the trade before finally making an agreement to trade for Godeffroy and its successor, DHPG. A few Australian and New Zealand firms entered the arena for a time, but they were soon overwhelmed by the large German companies that came to dominate trade in eastern Micronesia. In the western Carolines a handful of private companies sprang up for a time, but it was O'Keefe who long held the virtual monopoly over these islands.

From 1870 on, the firms recruited resident traders to supervise their trading stations and purchase copra from the islanders. These traders, generally Europeans or Americans, were provided with a simple home, a warehouse, and a supply of trade goods -at first largely ironware, cloth goods, tobacco – and were instructed to obtain as much copra as they could with their trade stock. The agents were paid a monthly salary or given a stipulated percentage of the profits, depending on the nature of their contract. A company ship would visit them periodically to pick up the copra and deposit a new stock of trade goods, but irregularity of shipping was a problem then as now. Most of the traders had saved very little cash by the time their term was over, it might be noted.

As the market price of copra rose and competition among trading firms grew, price wars

between traders often ensued. On Ebon in the mid-1870s, the price per pound of copra paid to producers escalated from 1c to almost 3¢ within a few months. When the world market price dropped suddenly the following year, the firms found themselves operating at a loss on islands such as Ebon. The trading rivalry also had other marked results. As the usual trade goods grew more abundant and commonplace on the islands, agents were under increased pressure to sell goods that were formerly considered taboo: firearms and liquor especially. Most firms resisted British naval efforts to enforce a ban on such items after 1880, and rifles continued to sell for between \$5 and \$20 apiece. These same rifles played a prominent part in the three intra-island wars that were being carried on in the Marshalls in 1883.

As an incentive to produce increasing amounts of copra, firms had to offer an ever more dazzling array of consumer goods. In the Marshalls, at least, simple iron goods and calico dresses were no longer sufficient inducement to make copra. Hence, the stores in Jaluit, reputed to be among the best-stocked in the Pacific, displayed canned foods, ship biscuit, sewing machines, and gold rings on their shelves. In Yap, the problem of creating incentive was solved far differently. For years traders had complained that Yapese resisted the drygoods and other paraphernalia that stirred the desires of other Micronesians. German traders there went so far as to pass out free pipes and tobacco to get the people addicted to a trade item that was quickly consumable. Yet, the most successful ploy was that used by O'Keefe when he offered to transport the large discs of stone money from Palau, where they were quarried, to Yap in return for a set amount of copra. Yapese did in time succumb to the allurements of Western-made goods, but it was their desire for a traditional item that permitted O'Keefe to gain his ascendancy there.

The plantation system, which produced substantial profits for firms in Samoa and Fiji, never proved very successful in Micronesia. It accounted for a very small fraction of the overall production in the Marshalls. Nonetheless, the traditional land tenure and authority system in the Marshalls was ideal for maximizing production. The chiefly landowners (iroij) simply ordered their tenants to make copra on the land to which they had given these tenants use rights. The chiefs permitted the tenants to keep part of the proceeds from the copra, while they retained a third of the profits for themselves and another third for the managers (alab) of the land. In addition to their share of the profits, chiefs also received a commission of \$2 or \$3 for every thousand pounds of copra in the mid-70s. Chiefs with title to large tracts of land became very wealthy through their control of the copra profits. Some dressed in suits and bought silk dresses for their wives, and five of them owned schooners or sloops. One landowner from Jaluit by the name of Nelu was estimated to have had in the early 90s an annual income of \$8000 a year, considerably more than the German governor of the Marshalls was earning.

By the onset of colonial rule in 1885, copra was firmly established as the backbone of the new money economy. It would continue to be this, at least as far as Micronesians were concerned, until the American administration and the increase in government employment. In the early 1880s, the western Carolines were producing about 1500 tons of copra yearly, while the Marshalls were exporting another 2500 tons. The total market value of these exports amounted to about \$250,000 annually. The sale of imported merchandise came to

about \$200,000 a year. The firms in Micronesia were doing business amounting to about half a million dollars a year, an enormous leap over the previous stages of trade in the 19th century.

SPANISH RULE

The establishment of Spanish rule over the Carolines in 1886 was of very little importance for the development of trade in the islands. The one small factory that the Spanish had planned to build on Yap was never constructed, and we do not even know what the factory was intended to produce. Apart from a small Spanish trading company headquartered in Yap in the 1890s, Spanish involvement in commercial affairs was nil. Spanish rule over the island was a matter of national honor, especially as so much of its former empire lay in tatters. Its goals were to christianize the people and make them loyal subjects of Spain. Mercantilism and considerations of financial profit and loss had nothing to do with colonial rule, in Spanish eyes. Hence, the German firms and other companies trading in the area carried on business as usual during the period of Spanish rule. The Spanish administration neither assisted nor hindered their operations for the most part. When the government did attempt to suppress the sale of firearms to islanders in Truk and Ponape, it was largely unsuccessful.

By the onset of Spanish rule, two large German firms -Hernsheim and DHPG – ruled trade in eastern Micronesia; together they controlled 80% of the business there. In 1887 these two giants formed a joint-stock company known as the Jaluit Company, which was immediately given administrative responsibility for the Marshalls by the German government. From this privileged position, the Jaluit Company soon drove out all competing firms and expanded its operations into other parts of Micronesia. Within a short time it had 60 stations reaching from the Gilberts to Palau. When Germany acquired the Carolines from Spain at the turn of the century, the Jaluit Company's privileges were extended to the eastern Carolines as well.

The other rival economic force in Micronesia just before the close of the century was Japanese trade. Japanese traders first established themselves in the islands in the early 1890s following an official Japanese expedition to the Marshalls to investigate the murder of several Japanese shipwrecked at Lae in 1884. The islands rapidly captured the imagination of adventurous Japanese entrepreneurs. In 1887 a Japanese by the name of Mizutani Shinroku sailed through the islands on a trading voyage before he was arrested in Ponape for trading illegally. Two years later he returned on another trading voyage to Guam, Truk and Ponape. Others soon followed him. In 1890 Taguchi Ukichi organized the Nanto Shokai with the help of funds for jobless samurai, and in his company vessel, Tenyu Maru, he visited Palau, Yap, Guam and Ponape to trade. His company lasted only a year, but it was succeeded by three other firms organized between 1891 and 1893, the most successful of which was the Nanyo Boeki Hioki Goshi Kaisha. In 1901 another important Japanese firm was founded, Nanyo Boeki Murayama Hiroyoshi. These two firms carried on trading activities in Micronesia for several years until they merged in 1906 to become the Nanyo Boeki Kabushiki Kaisha.

Meanwhile, Japanese traders were brought to the islands in large numbers during the 1890s. They built houses for themselves, took native wives, and carried on trading operations much

as they pleased. When the Spanish authorities found them selling guns and alcohol to local people, they let the Japanese off with a warning. Matters were different when the Carolines passed into German hands, however. When several Japanese merchants were discovered repeating the same offences, they were summarily expelled by German authorities. Such was the difference between Spanish and German administration.

MARSHALLS UNDER THE JALUIT COMPANY

When Germany established a protectorate over the Marshall Islands in 1885, it was partly in response to a plea from German companies to protect their business interests there. The German government, however, was reluctant to take on the burden of administering these islands and forced the companies to handle this task themselves. As a result, the two major German trading firms, Hensheim and DHPG, pooled resources to form the Jaluit Company, which was entrusted with the responsibility of administering the area.

The Imperial Commissioner and his secretary, the only two German officials in the territory, were named by the German government but with the approval of the Jaluit Company. The company was to pay the salaries of these officials, provide for their housing and transportation, and handle other incidental expenses. These administrative costs during the Jaluit Company's control in the Marshalls, between 1888 and 1905, totaled 300,000 marks, or about 18,000 marks a year.

This financial burden was offset by the taxes and fees that the Jaluit Company was empowered to exact. First there was a business tax that ranged from 9000 marks (on large trading firms) to 800 marks yearly (on restaurants and taverns). Second, there were harbor fees imposed on all commercial ships, aside from Jaluit Company vessels, visiting the Marshalls. These fees, set at 1000 marks a visit, had the desired effect of discouraging trade competition in the area. Finally, there was poll tax of 20 marks a year levied on everyone over the age of 16. This tax was normally paid in copra. The total assessment came to about 330,000 lbs. of copra a year, one-third of which was kept by the chiefs who collected it. The remainder went to the Jaluit Company to help defray administrative expenses. At a market price of 10 pfennig per pound, the Jaluit Company's share of the tax would have come to over 20,000 marks annually. Hence, the poll tax alone would more than cover the company's administrative expenses each year.

The Jaluit Company was given several privileges, among them the right to appropriate all unclaimed land in the Marshalls. Nonetheless, the Jaluit Company never developed its own coconut plantations, as its forebears did in other islands of the Pacific. Instead, it encouraged the islanders to plant coconut trees on their own land, strangled all trade competition through its tax rates and other advantages, and used the Marshalls as a base for expanding trading operations to the Gilberts and Carolines. Copra was the only product of any value that was exported during this time; in 1897 the total value of exports from the Marshalls was 869,000 marks, with all but 10,000 of this from copra.

With the discovery of phosphate in Nauru, then a part of the German protectorate of the Marshalls, the economy of the area took a new turn. Soon after mining operations began in

1902, phosphate became the major product of the area. Although the Jaluit Company did not actually run the mines, it was given a 10% share in the mining company and received royalties on all phosphate mined.

In 1906 the Jaluit Company's administrative control of the Marshalls ended when Great Britain protested the enormous taxes that the company was imposing on British trading firms operating in the area. Rather than have British take retaliatory measures, Germany withdrew the Jaluit Company's monopoly and set up a colonial government under its own direct control. The Jaluit Company had undergone some serious setbacks and was not entirely unwilling to surrender its administrative responsibilities. Copra production had been badly hurt by a typhoon that ravaged the Marshalls in 1905. The company had also become embroiled in a bitter labor dispute with the people of Namorik over wages for stevedoring, and a two-and-a-half year blockade of the island was unsuccessful in bringing the people to their knees. Yet the Jaluit Company continued to operate successfully in the area until the end of German rule in 1914.

GERMAN RULE

When Germany bought the Carolines and Marianas from Spain in 1899, it established district offices on Yap, Saipan and Ponape and left the two or three personnel in each place to their own devices to administer their area. Germany clearly wanted the islands, but just as clearly did not quite know what to do with them once it possessed them. The early years of German rule were notable for the absence of any consistent and articulated development policy. Each district officer was virtually autonomous in his own domain.

To preserve peace, the government collected any firearms in the possession of Micronesians and forced the growing number of Japanese traders to comply with the government's ban on selling guns and whisky to local people. Other than this, the German government was content to provide basic services for the people and let commercial firms see to their own interests. On some islands German administration initiated public works projects such as the construction of channels, bridges and roads. Sixty miles of road were built on Yap alone during these years. The government also legislated and enforced the regular planting of coconut trees on all major islands; 80,000 trees were planted on Yap, and another 15,000 on Saipan. In addition, the government introduced deer, cattle and sheep on some of the larger islands, particularly Saipan and Ponape.

In 1906, with the establishment of a Colonial Office in Berlin, a coherent colonial policy was at least formulated by the German government. In essence, the policy was an exploitative one: Germany was to derive economic value from its colonies in exchange for the "benefits of civilization" that it was bringing the native peoples. Echoes of this policy were immediately heard in Micronesia and a development plan of sorts began to take shape. Ponape was to become the testing ground for this new economic policy, and in 1908 the first of several measures was initiated there in an effort to make the island more productive. Land reforms were implemented that gave outright ownership to those who were working the land; deeds would be introduced a few years later. The tribute system was modified to

avoid what the Germans regarded as wasteful feasting. Henceforth, only one feast each year was allowed for the chiefs so that more resources could be used for the production of export items. Lastly, a head tax was imposed on each adult requiring him to work gratis 15 days a year. Half of this time was for the benefit of the local chief and half for the German government.

The German reforms, interrupted on Ponape by the Sokehs rebellion, did not have the desired effect of significantly increasing the commercial output of the colony. There was no commercial agriculture carried on anywhere in the islands except for some tobacco growing in the Marianas. Copra production increased to some extent, largely because of the growth of the industry in the Marshalls. Production in the western Carolines was seriously impaired by droughts, typhoons and a leaf lice that destroyed coconut trees on Yap. What little commercial fishing was carried on was confined to the old products of the China trade: sharks fin, beche-de-mer, pearl shell, and turtle shell.

Until the take-off of the phosphate industry after 1908, copra was virtually the only export in Micronesia. In 1902, copra accounted for 96% of the total export value in German Micronesia. In the western Carolines it was responsible for 96,000 marks out of total exports of 116,000. In the eastern Carolines, copra brought in 152,000 marks out of a total of 166,000. In the Marianas it accounted for all but 2000 marks from a total export value of 175,000. Exports for the entire area remained steady during these years at a little over one million marks a year.

With the success of the phosphate operation on Nauru and the opening of another mine on Angaur, Palau, in 1908, the picture changed enormously (See Appendix II and tables). The Nauru operations, which began earlier, were run by a private company that paid the German government revenues of 11/4 mark on every ton mined. The Angaur mine, however, was government-owned and the profits made on the phosphate were used to offset some of the expenses of administering the colonies. Production of the Angaur mine increased rapidly from about 9,000 tons in 1909 to 90,000 tons in 1913. In 1911 the value of phosphate exports from Angaur came to 1,250,000 marks out of a total export value for the western Carolines of 1,650,000 marks. This represented 76% of the total export value in the west. By the end of German rule, the islands were exporting about 10,000,000 marks worth of products a year, and phosphate exports from Nauru and Angaur accounted for 90% of that total.

The growth of the phosphate industry meant more than a major export for the islands and a means of reducing administrative losses; it also provided a labor market for Micronesians. From 1908 on, Carolinian workers were recruited for the Nauru mines at the rate of about 800 a year. Shortly after this, Micronesians were also brought to Angaur to work the mines there. By 1913 some 1300 local laborers were employed in the mines where they worked 6 days a week for a salary of 17 marks a month. If these employees had brought back half of their salaries, they would have contributed 100,000 marks each year to the local economy.

Germany financed its colony through subsidies from the very outset. The tax system that the Germans first employed was a hodgepodge of various sorts of fees that was bringing in only

77,000 marks yearly by 1905. With the reorganization of the tax structure, however, the amount of local revenues increased greatly. The most important feature of this tax system was a duty on all imports that went into effect in 1908. This provided for a tax of 10 marks on each ton of copra exported and duties of 10 marks on each ton of phosphate. Near the end of German rule local revenues rose to about 500,000 marks yearly out of a budget of about 600,000 or 700,000 marks. The government operated at a loss until the very end of German administration, therefore, despite the increase in revenues and the rise of export value. The government gave no subsidies to business interests at any time during this period.

The German economic achievements in Micronesia, in brief, were to double the output of copra (largely through the establishment of a copra industry in Truk and Ponape) and to pioneer the development of the phosphate industry in Nauru and Palau. Commercial agriculture and fishing remained non-existent during this period. By the end of German rule, Japanese trading interests had grown to such an extent that nearly all of the trade in the northern Marianas and about three-fourths of the trade in Palau was in the hands of Japanese companies. By the Japanese takeover in 1914, there were no fewer than 70 Japanese traders operating in Micronesia – a forecast of what was to come.

JAPANESE MANDATE

Buildup of Japanese Firms: NKK and NBK.

Shortly after the Japanese seizure of the islands in 1914, a Japanese entrepreneur by the name of Nishimura visited Micronesia and leased land to begin growing sugar. In 1916 land was cleared on Saipan, Japanese and Korean laborers were brought in to cultivate the land, and by 1919 a sugar refinery was constructed. This scheme failed, as did the next two attempts that Nishimura made to begin a sugar industry. An attempt by another company to build up the industry also ended in failure and the 400 Japanese immigrants that he had brought into Saipan were abandoned there. In 1921 Matsue Shunji visited the islands to explore the possibility of a sugar industry in the islands, and after some difficulty he managed to persuade Japanese investors to underwrite a new company. The company was begun in 1921 with capital of 3,000,000 yen and Matsue as its director. It was named Nanyo Kohatsu Kabushiki Kaisha, or simply Nanyo Kohatsu Kaisha (NKK). In the same year the company began operations on Saipan, and in the following year a sugar mill was set up there. Later operations were expanded to Tinian, Rota and Ponape. The business prospered, and by 1934 NKK had 20,000 acres under cultivation.

Nanyo Kohatsu Kaisha also took over the phosphate mining activities in Micronesia. The Angaur mines were put under the jurisdiction of the Japanese military following the seizure of the islands from Germany. In 1922 the Japanese government finally purchased all mining rights and equipment in the western Carolines. Sometime after this, NKK obtained mining rights in Angaur and eventually Babeldaob and Fais as well.

In addition to a monopoly on sugar production and phosphate mining, NKK also began commercial fishing operations, the production of marine products, and cultivation of starch, hemp, cotton and other crops. The company had 8000 employees, almost all of them

Japanese nationals, and was responsible for 9000 dependents by the mid-1930s. NKK was the largest company in the islands, a Japanese version of the Jaluit Gesellschaft, and ruled commerce in the Mandate together with Nanyo Boeki Kaisha.

Nanyo Boeki Kaisha (NBK), whose pedigree could be traced back to Spanish times, complemented the business activities of NKK. The origins of NBK lay in the early trading companies that pioneered Japanese trade in Micronesia in the 1890s. When the most successful of these early firms, Nanyo Boeki Hioki Goshi Kaisha, merged with another later arrival in 1906, NBK was born. For almost a decade before the Japanese occupation of Micronesia, it was the dominant Japanese trading interest in the islands.

NBK prospered under the Japanese mandate. It controlled all of the copra trade and did some business in fish and marine products, besides running a string of 32 retail stores throughout the islands that employed 700 Micronesians. NBK and NKK both received government subsidies, and between them they had 50,000 acres under cultivation (about one-third of all the arable land in Micronesia).

Early Development Policy

The period of early Japanese military rule, 1914-1922, was one of administrative experimentation. The main concern of the government during these years was to find an administrative structure that worked well; meanwhile, many of the old German policies were continued. Mining operations on Angaur were carried on, and the old tax system imposed by the Germans was adopted almost intact by the Japanese. The military government of the islands was recognized as a temporary one, and so there was no attempt made to develop long-range economic policies for the islands.

With the establishment of the civilian government over the islands in 1922, economic development began in earnest. It was at this time that the sugar industry, which was to become the mainstay of the island economy under the Japanese, began in Saipan. From the very outset Japanese nationals were brought in to cultivate and harvest the sugar, since the islanders did not seem to like this arduous work. NKK, with the help of a government subsidy, provided transportation for the Japanese or Okinawan (and his family), land for cultivation of sugar, and a loan for the purchase of supplies that he might need. In turn, he was to sell all his sugar to NKK according to the terms of a contract.

Sugar Industry

With the help of liberal government subsidies (amounting to about half a million yen each year by 1930), the sugar industry flourished in the Marianas. It soon diversified and began producing molasses and alcohol. By 1936, 13 million yen worth of sugar was being exported yearly, with another million coming from the exports of alcohol (See Table 1). Hence, 14 million out of the total export value of 25 million yen was from sugar. In the years prior to 1936, sugar accounted for an even higher percentage of the total exports: it brought in 14.4 of 18.4 million yen, or 79% of all export income, in 1934; and 20.4 of 26.4 million yen, or 77% of the total, in 1935. Sugar, then was the backbone of the economy during the 1930s.

The government worked extremely closely with the NKK-run sugar industry, providing subsidies, setting prices for the purchase of sugar, and providing land for the industry's expansion. So close was this collaboration as the sugar industry began to bloom that one could say that this industry's needs determined government policy in the Mandate, even when this necessitated an abrupt change in direction. This is illustrated best in the case of land and immigration policies in the islands.

Immigration and Land Policies

Initially the Japanese government did not seem to favor heavy immigration into the islands, just as it did not approve of displacement of native populations within the islands. In fact, the government returned the Ponape exiles who had been sent to Palau after the Sokehs rebellion. In 1920 there were only 3,600 Japanese living in Micronesia. As the sugar industry (and some of the other industries also) required more labor, massive immigration from Japan occurred. In 1930 there were 20,000 Japanese nationals living in the islands; by 1935 there were over 50,000; and by 1940 there were about 85,000. Eighty percent of the total labor force in the islands was Japanese or Okinawan. Such large-scale immigration from abroad meant that the government had to provide social services for these foreigners, a task that increasingly absorbed the attention of the administration through the 1930s.

Sugar production, and to a lesser extent other agricultural projects, demanded an ever greater amount of land. In 1925 there were about 7,000 acres planted in sugar (See Table 1). In 1930 the acreage had grown to 15,000; by 1935 it was nearly 25,000; and in 1940 it was about 40,000. The demand for land for sugar and other crops necessitated changes in the Japanese government land policy. At first the Japanese administration claimed the title to all land held by chiefs in virtue of their traditional powers, but it discouraged the sale by Micronesians of private land. The survey of landholdings conducted in 1932 revealed that the Japanese government had title to 156,000 acres, compared with 60,000 under private ownership of Micronesians. Much of the government land was leased to NBK and NKK for production and industry. As land needs continued to grow during the early 1930s, the government conducted a survey of all private lands. Finally, in order to accommodate the increasing number of immigrants, the government began to buy and lease private land. Eventually, therefore, the administration reversed its original land policy in the islands.

Other Major Industries

Another product exported by the Japanese was phosphate. When the Japanese took over the Angaur mines during World War I, they continued the mining operations much as the Germans had. The rate of production during most of the Japanese administration was between 60,000 and 90,000 tons a year, about the same as it was during the last years of German rule (See Appendix II). During the late 30s, however, output doubled to between 120,000 and 200,000 tons. The Japanese, like the Germans, employed Micronesian laborers in the mine – and this was the major source of wage employment for Micronesians during this period. The number of native laborers under the Japanese averaged about 360 a year, fewer than the number that the Germans employed since the Japanese employed 100 or so of their own people each

year. Laborers were required to work six days a week and received wages of about 13 yen a month in addition to food and lodging.

Copra remained a steady source of money for the islands, even though it was eclipsed by sugar during Japanese times as it had been by phosphate during German times. It also was one of the few means that islanders had of earning money, since most jobs in the agricultural and fishing industries were held by Japanese. Some 10,000 islanders made copra and sold it to local representatives of NBK and other trading concerns. In 1936 the export of copra was valued at slightly more than 2 million yen (See Appendix I and tables). The Japanese government encouraged the copra industry by offering subsidies for planting palms and for the erection of drying sheds. As a result, copra production doubled from 13 million pounds yearly.

Marine products constituted the fourth major commercial industry under the Japanese. During German times activities had been restricted to those few goods (beche-de-mer, shark fin and shell) that could be sold to the China market, and the income remained insignificant when compared with copra and phosphate. The Japanese government, however, made a deliberate effort to exploit the potential of maritime industries. First they made a scientific survey of all marine products throughout the islands and established an experimentation center in Palau. In addition, they subsidized the fishing industry, as they had other industries. As a result, the islands soon produced many different marine products. The centers of this industry were Palau, Saipan, Truk, and Ponape. The most important product was katsuobushi, or dried bonito, which produced 2,700,000 yen in 1936 (See Appendix III and tables). The export value of katsuobushi more than tripled as it reached 8.7 million yen by 1940. Besides this, the islands produced trochus shell, turtle shell, cultivated pearls, sponges, canned fish, and tropical fish. In all, perhaps 4 million yen was earned from exports of marine products in 1936. As in the case of the sugar industry, however, this industry was worked entirely by Japanese. Micronesians who collected and sold turtle shell to Japanese companies obtained some financial benefit from this.

The government also initiated experimentation with agricultural crops through its research centers on Ponape and Palau. The most notable aspect of this industry was the production of starch on Ponape from tapioca, arrowroot and sweet potatoes. Coffee was grown on Saipan in the late 20s until sugar proved more profitable. Various kinds of fruits and vegetables were introduced by Japanese agriculturists. Cotton, sisal, hemp and coconut leaves were utilized to produce fibers. Some charcoal was made, and different types of trees were introduced in the hope of producing a healthy lumber industry. Again the Japanese government furnished liberal subsidies to encourage the development of agriculture. It provided free seeds, sold farming tools at half their cost, and agreed to buy any produce at a set rate. Nonetheless, agriculture never yielded any significant financial return for the islands. The export value of all agricultural produce (with the exception of sugar) for 1936 amounted to slightly more than 1 million yen. Whatever economic benefits Micronesians derived from the economic success under the Japanese were entirely incidental.

Government Finances

The budget during Japanese administration of the islands, although much higher than that during German times, was remarkably steady throughout the 15 year period from 1920 to the mid-1930s. Yearly expenditures averaged about 5 or 6 million yen during these years, with no marked tendency towards increasing budgets. It is significant that the 5.4 million yen spent by the government in 1935, nearly 25%, or 1.3 million, went for subsidies to industries (See Table 2 for figures in 1936).

At first the Japanese Imperial Treasury supplied almost the entire administrative costs for the Mandate, but by 1933 the islands were completely self-supporting and by 1936 they were producing a surplus revenue of 1 million yen annually. Of the 6.5 million yen revenue raised by the government in 1936, 60% came from harbor clearance fees; this was equivalently an export tax on sugar that amounted to over 4 million yen. Another 1.7 million yen came from duties on phosphate; this came to 27% of the total revenue. The remainder of the revenue derived from custom duties and poll tax. The poll tax, which amounted to 1.3% of the total revenue, was levied on all persons over the age of 16 and was very similar to that imposed by the Germans.

This period represents the height of economic development in the islands. Never before or since have the islands of Micronesia been fully self-supporting under colonial rule (See Table 3). The government achieved this by encouraging productivity through 1) land grants, 2) price supports and tariff benefits, 3) subsidies, 4) immigration, and 5) education in agricultural techniques and research for new crops. But this accomplishment was purchased at a cost: immigration of Japanese to the islands on a vast scale, and the alienation of large tracts of land from Micronesians, and the virtual exclusion of Micronesians from the most important commercial enterprises the end of German rule to 26 million pounds during the mid-1930s.

Production by Island Group

The height of economic productivity in the Mandate was reached in 1937 when the total value of exports from the islands exceeded 37 million yen. A breakdown of exports by island group, as presented in Table 4, offers a more detailed look at the Japanese achievement while providing an inventory of the main items produced.

Marianas

The largest industry in these islands, as in the entire Mandate, was the sugar industry. In 1937 the value of the sugar in the Marianas came to about 21,200,000 yen for sugar and molasses. Root crops were also grown for the production of starch, valued at 430,000 yen in 1937. Coffee was grown as well as other crops, the total value of which was another 150,000 yen. Copra produced 115,000 yen. Some mining of phosphate was done on Saipan, Rota, Agrihan and Medinilla, and 14,000 tons valued at 230,000 yen were mined in 1937. Commercial fishing accounted for 1,100,000 yen, with most of this coming from the dried bonito industry. There was a small lumbering industry, some animal husbandry, and various other smaller type industries. The total export value for the Marianas in 1937 was 23,700,000 yen of a total 37,300,000. This was an increase of 10 million yen over its exports of

14,000,000 in 1934.

Palau

There was considerable commercial agriculture done in Palau during the 1930s, with a great variety of crops grown. The total value of crops grown in 1937 was 450,000 yen, with the most important ones being tapioca, sweet potatoes and taro – used for starch. The export value of crops was 190,000 yen. Copra accounted for 150,000 yen. Livestock was also raised in Palau, and a slaughterhouse was built there. Phosphate was produced and accounted for the greatest source of income; in 1937 phosphate exports were valued at 2,100,000 yen. There were 91,000 tons from Angaur, 26,000 from Peleliu, and another 1500 from Tobi produced. Aluminum was discovered and mined in Babeldaob from the late 1930s; 25,000 tons was the expected yield for 1937. Lumber and wood products brought in another 14,000 yen in exports. Commercial fishing totalled 5,100,000 yen, making it the most important industry in Palau. Two million yen came from dried bonito, and another 3.1 million came from shellfish. This included the sale of trochus and other shells used to make buttons, cultured pearls, and production of turtle shell. In addition, there were a number of smaller industries such as the production of cord for export. Palau had one of the most diversified economies during this period. Its production came to about one-fourth of the entire Mandate, and its exports in 1937 totalled 7,906,000 yen. This is an increase from 4,500,000 yen in 1934.

Yap

Some commercial agriculture was done to the value of 76,000 yen in 1937, but none of this was exported. There was also some livestock raised, as in Palau, and slaughtered for the meat. Phosphate deposits were discovered on Fais and began to be mined in 1938. They produced 14,000 tons that year, and 44,000 tons the following year. Copra brought in 190,000 yen, while lumbering and charcoal production accounted for 9,000 yen more. Commercial fishing in Yap could not be compared with Palau in scale; Yap produced 19,000 in revenue through shell in 1937. The total export value for Yap in 1937 was 220,000 yen. The export value decreased slightly from 1934.

Truk

The largest industry in Truk was the fishing industry. In 1937 manufactured marine products were valued at 2,195,000 yen in all. Besides the usual dried bonito processing, there was also a canning operation located on Toloas. There was no commercial agriculture to speak of, and the forestry industry brought in only 10,000 yen in 1937. Manufacture of rope brought in 100,000 yen and copra produced 670,000 yen. Total exports in 1937 were 3,049,000 yen. This is double the value of exports in 1936 and quintuple the value in 1934 (627,000 yen).

Ponape

The largest industry on Ponape was the dried bonito and fishing, which in 1937 produced 450,000 yen worth of fish products. The second largest industry was starch production, begun in 1934. Sweet potatoes, arrowroot and other tubers were grown on Ponape for the making of starch, but by the late 1930s tapioca was the main crop grown for this purpose. About 1300 acres were planted in tapioca, and in 1937 nearly 2000 tons of processed starch

were exported at a value of 200,000 yen. There was also considerable amounts of vegetables grown, but these were consumed locally. Lumber, charcoal and other forest products were also turned out, but their export value was negligible at 15,000 yen yearly. Copra brought in about 660,000 yen. In 1938, the starch acreage was converted to sugar; before this time there was no sugar production on the island. There was also some aluminum mining on a small scale. Total exports in 1937 were 1,538,000 yen. This figure tripled since 1934 when exports totalled 554,000 yen.

Kosrae Other than copra, little was produced there. An attempt to raise sugar there in 1938 failed completely, and an attempt to do truck gardening there the following year came to nothing because of insects. Exports in 1937 were 125,000 yen. This was almost all copra (122,000 yen).

Marshalls

The largest industry by far was copra, which amounted to an export value of about 600,000 yen a year during the 1930s, and about 800,000 yen in 1936. There is also some commercial fishing, with exports of about 55 tons yearly. Some dried bonito was sold, and a small cannery was established on Jaluit. There was a small supply of phosphate on Ebon that was mined, but this was inconsequential. Exports in 1936 were 890,000 yen.

UNITED STATES TRUSTEESHIP

Naval Period

When Micronesia passed over in to American hands at the end of World War II, the U. S. Navy assumed the responsibility of administering the islands until civilian rule could be worked out. From the very outset, American military policy was a reaction to what was perceived as the abuses of Japanese development policy. In a directive issued in December 1945 by Admiral Spruance, Military Governor of the islands, the American position was enunciated firmly: Indiscriminate exploitation of the meagre resources of the area is to be avoided The establishment, for the profit of aliens, of enterprises which tend to maintain the island economy at the level of cheap labor and which do not permit the islanders to enjoy the full benefits of their own labor shall not be tolerated." (Hezel and Berg, 495-6). This was the rationale for the slow-paced approach to development, the economic side of the so-called "zoo theory", that endured through the first fifteen years of American rule.

The US military made two decisions that would eliminate any large-scale development such as had occurred during Japanese times. First, all Japanese were repatriated by the end of 1946, thus depriving the island of the skills needed to restore the economy. Second, large development projects backed by foreign money were to be excluded from the islands on the grounds that they did not promote the welfare of the Micronesian people. Any economic development that occurred during the early American period was to benefit the local people and be subject to their control.

Within a few months of the inauguration of US naval administration, the United States Commercial Company (USCC) was created to supervise economic development in the island

territory. This government-funded organization set about trying to rebuild the copra industry, fishing and agriculture that had been wiped out during the war. USCC bought produce from the islanders for export and offered them, in turn, a selection of import items for purchase. Perhaps its most significant achievement, however, was the economic survey that it conducted of the territory in 1946 as an aid to developing the potential of Micronesia.

In late 1947 USCC was replaced by the Island Trading Company (ITC), a corporation that was capitalized by the Navy and run by the Deputy HiCom. The purpose of ITC, like USCC, was to promote development by furnishing technical assistance and services to locally owned businesses. ITC purchased and marketed copra, handicraft and other exports. It also provided loans and subsidies to island businessmen in an effort to stimulate the growth of industry. In addition, it imported goods and sold them wholesale to local stores as USCC had done. With the assistance of ITC importing and warehousing services, retail stores proliferated quickly. By mid-1951 there were 325 such stores in Micronesia, all locally owned and many of them headed by men who would be prosperous entrepreneurs two years later. ITC, however, did not fare as well in its attempts to encourage production of new crops for local consumption and export. The loans that it provided for such projects as poultry, coffee, remie, coir fiber and cacao were unproductive and the projects failed one after another.

Exports during these early years totalled about \$2 million annually. Phosphate, which was close to being exhausted, accounted for more than half of that sum, with copra bringing in another \$700,000. Handicraft, trochus and a few lesser items brought, in another \$150,000 in all. This only demonstrated how difficult it was to stimulate the productive sector of the economy compared with retail stores.

ITC was finally liquidated in 1954, three years after civilian administration under the Interior Department had begun in Micronesia. By this time, local import companies such as Truk Trading Company, KITCO, MIECO and others were strong enough to survive on their own. The other functions that ITC performed were dispersed to other organizations. Copra exports and shipping were contracted to a private firm, Atkins-Kroll, while the responsibility of providing loans and technical advice was taken on by the new civilian administration.

Go-Slow Development

Through the first decade of US civilian administration (1951-1962), economic policy was directed towards the goal of eventual self-sufficiency of the territory. The belief that Micronesia could attain self-sufficiency was sustained by the impressive record of Japanese accomplishments in the islands during the 1930s. The US wanted to duplicate this achievement in time, but without the exploitation and alienation of land that had occurred during the previous administration. Hence, US authorities in the RT discouraged private capital investment, calling for government investment instead. Moreover, the pace of development was to be geared to the desires and capacity of the local people, respect was to be paid their fondness for the traditional patterns of life, and wages were to be kept consistent with the productivity of the economy.

Government subsidies, especially in the social services were carefully controlled so as not to

undermine the goal of self-reliance. The philosophy of economic development that prevailed at this time was especially on guard against the "creation of a mendicant economy and the growth of a subservient spirit among the indigenes" (O'Connor, 4). The assumption was that limited quantities of foreign imports could become "incentive goods" to spur the local population on towards greater productivity. If US appropriations were limited so that the cost of government and the indigenous government work force were kept small, the commercial economy would develop alongside the subsistence economy.

This policy was zealously implemented during this period. The annual US subsidy remained at a level of \$5 or \$6 million each year, barely enough to maintain necessary services without subverting its development policies. The value of exports remained between \$2 and \$3 million each year, with copra accounting for most of this figure (See Table 6). A system of taxation, largely inherited from Navy times, included a processing tax on copra, and taxes on cigarettes and luxury items; but this brought in merely a few thousand dollars each year. At the territory-wide level local tax revenues were insignificant, since they amounted to only \$200,000 out of a budget of \$6 million. But at the municipal level they were not. Municipalities were encouraged to develop a head-tax and to use the free labor to complete local self-improvement projects. Moreover, the municipalities were assigned the responsibility of repairing their schools and paying the salaries of their teachers. At the lowest levels of government, therefore, self-reliance was encouraged and practised.

Heavy Investment in Social Services

A complete change in direction occurred in 1963. Export values had reached a plateau at about \$2 million for some years and the economy appeared to be stagnating. Several experimental crops had been tried, but these projects all proved failures. Evidence seemed to point to the need for a large capital outlay from without to do what planners once thought could be done from within the internal structure. The US administration, therefore, set about a program of intensive development in Micronesia. The annual appropriations for the TT doubled in 1964 to \$13 million and escalated to over \$60 million in 1971. Thereafter, US funds continued to increase until the close of the 1970s.

The expanded US funding was not put into economic development projects, but into administration and social services. The development theory of the day maintained that the health and education of the populace were the prerequisites for long-range economic development. This theory furnished a rationale for the turnabout of US development policies in Micronesia, or perhaps a rationalization for the heavy investment policies recommended in the Solomon Report. Schools and health facilities were built with the new capital improvement funds, and during subsequent years the government allocated 40-45% of its annual budget for health and education, compared with the 16-18% allocations during the 1950s (See Table 7).

With the increased US subsidy, the TT government began to assume many of the responsibilities that had once been handled by municipalities, particularly in the areas of health and education. An increasing number of Micronesians came to depend on government

salaries for their livelihood, as the local government work force tripled during the 1960s from 2,700 in 1961 to 7,200 in 1970. The service industries in the private sector expanded accordingly, as restaurants, bars, retail stores and movie theaters multiplied (See Table 8). Total salaries for Micronesians in both public and private sectors escalated from \$3.3 million in 1961 to \$20.5 million in 1970 (See Table 9). Meanwhile, the imported goods that were to serve as the incentive for increased productivity became available in unprecedented quantities through the government salaries that Micronesians were earning. The value of imports, which had remained at the level of about \$4 million a year throughout the late 1950s, rose dramatically in keeping with government salaries. By 1970 the annual value of imports had reached \$20 million (See Table 5).

Exports, on the other hand, remained at about the same level as during the 1950s – about \$3 million annually – with some minor fluctuations due largely to changes in the price of copra (See Table 6). The amount of copra produced remained fairly steady, despite these changes, at about 26 million pounds a year. The only project of any consequence in the productive economy was the establishment of a Van Camp fishing operation in Palau in 1964. But the impact of this on the local economy was limited to the salaries of the 50 shoreside Palauan laborers and the local purchases made by the company. An estimated \$200,000 a year entered the Palau economy through this operation.

Large Supplement: CIP and Federal Programs

With its original economic development policies discarded, the government pursued its new course into the 1970s and subsidies continued to grow year by year. From 1970 on, expenditures on Capital Improvement Projects (CIP) began to appear as a considerable budget item (See Table 10). The US administration, with the firm backing of Micronesian leaders, decided to develop the infrastructure that was thought to be needed before the islands were entrusted with self-government. The supposition was that if a suitable infrastructure were in place, the task of achieving economic development would be that much easier. Between 1970 and 1979 a total of over \$250 million in CIP funds was allocated by the US (See Tables 11 & 12). Public buildings were put up, roads were paved, airports built, and dock facilities constructed, among other things. The CIP projects have had a considerable economic impact on Micronesia in terms of salaries of employees working on these projects, but it appears that their net effect in increasing the productivity of the economy is minimal. The one exception may be the effect of airfields and roads on tourism.

During the 1970s, another significant source of funds entered Micronesia in the form of Federal Program grants. The Trust Territory became eligible for Federal assistance under a myriad of different programs, all of which were over and above the ordinary yearly subsidy. From 1974 to 1979 the Trust Territory received about \$120 million in such funds, an average of \$20 million a year (See Table 10). Most of these were aimed at improving the social services, the same area on which nearly half of the regular Trust Territory budget was spent. This made possible the hiring of still more government employees. By 1979, 11,000 Micronesians were employed by the government in Palau, the Marshalls and FSM (See Table 13). Imports continued to rise proportionately with government salaries, and in 1979 they

reached a value of \$38 million, in the same three places.

Total US assistance, in the form of its operational subsidy, CIP money, and Federal Program funds rose even more sharply in the 1970s than it had during the previous decade. In 1971 the level of US aid was \$67 million. By 1979, the peak year of US subsidies, it had doubled to \$138 million, with \$80 million of this amount coming in the form of CIP and Federal Program funds (See Table 10).

Exports during the late 1970s showed a notable increase for the first time in the entire US administration. By the end of the decade exports reached a level of about \$16 million yearly (See Table 6). This was due to three new commodities: tuna, coconut oil and copra cake, and tourism. The tuna exports, which amounted to slightly more than \$4 million, were almost entirely the result of the Van Camp fishing operation in Palau. The sale of coconut oil and copra cake was made possible by the construction of two copra mills, one in Palau which began operations in 1977 and another in Majuro that opened in 1978. The products of these two mills accounted for sales of between \$5 and \$6 million yearly, in addition to the \$3 million earned through the sale of unprocessed copra throughout Palau, the Marshalls and FSM. Tourism, often called the "invisible export," had grown steadily through the 1970s and by 1979 and 1980 was bringing in an estimated \$2 million yearly (See Table 15), besides boosting handicraft sales to about \$800,000 annually.

Some of these gains were short-lived, however. The Van Camp plant in Palau closed down in 1982, and it is believed that the export of fish once again is a very minor industry, although accurate data is hard to obtain. The copra mill in Palau also ceased operations two years ago, and the mill in Majuro is now producing about \$2 million in the sales of oil and cake. Tourism remains the hope of the future in the eyes of many, and repeated attempts have been made to cultivate this as a major industry in Micronesia. With \$2 million from tourism, another estimated \$3 million from copra exports, and perhaps \$1 million from handicraft, the total exports of Palau, Marshalls and FSM today would probably come to about \$8 or \$9 million today. This is triple the value of exports at the very start of the US administration in Micronesia nearly forty years ago. When inflation is figured in, however, the value of exports today is probably not much more than it was then.

Looking at the Future

Although increases in the value of exports have been quite small, especially when compared with the amount of US assistance in recent years, there are some promising signs that the Micronesian governments may generate some of the income they need in other ways. For several years now, the three governments have negotiated with Japan for yearly payments in exchange for fishing rights in the territorial waters of these Micronesian states. The three governments receive a total of \$4.5 million yearly for these rights. In addition, the Marshalls has recently negotiated an agreement with Japan to establish a base on Majuro that will service the Japanese fishing fleet in the area. The new governments appear to be attempting to promote development more through a lease rights and establishment of a service economy than through production of goods for export. The recent hotel expansion in Palau in

anticipation of a buildup of its tourist industry follows along the same lines.

Moreover, there have been some modest attempts at import substitution for the purpose of cutting costly imports and providing local jobs through small industries. Ponape started a small soda bottling industry and has lately begun to make zoris. Its small coconut processing plant produces soap and oils, and this experiment has been duplicated in Truk within the last two years. Sakau bars have replaced the taverns that were formerly numerous throughout Kolonia in Ponape, and the drinking coconuts that are now sold in stores on Yap have cut into the soft drink market. These initiatives have made very small inroads so far, but they may point to viable directions for the future.

As the new Micronesian governments prepare for Free Association, they can look back on a forty-year U.S. administration with starts and stops and startling reversals of direction. The productive economy is almost as stagnant now as it was during the 1950s, as export levels clearly indicate. Although for the past ten years the US administration has sought private capital in the hope of developing industry, the lack of resources and the distance of the islands from major markets continue to discourage potential investors. An added difficulty is the relatively high labor costs that have resulted from the steady increase in wages in the public sector. The large and costly governments that are the legacy of the US administration are a staggering financial burden. But they are also the base on which the economy, including the private sector, rests; and they are the main source of employment for the population. The most rapidly expanding part of the private sector are the wholesale and retail companies.

Yet, as lopsided as growth might have been in Micronesia, it has raised the standard of living (at least as measured in dollar terms) more than any time in the past history of the islands. The latest reliable figures (1979) showed that 19,000 people in Palau, FSM and the Marshalls had fulltime employment and their earnings totalled \$42 million (See Tables 13 & 14). Even at the height of the productive Japanese economy in the late 1930s, the Micronesian-people did not enjoy the level of material prosperity that they have now. Their problem, however, is to ensure that it continues.

APPENDICES

MAJOR INDUSTRIES PAST AND PRESENT

APPENDIX I: COPRA INDUSTRY

The copra industry was begun in Micronesia in the early 1870s, several years before the islands were placed under colonial rule, and has continued down to the present. Amid the many changes that foreign powers have introduced in development policy and commercial products, copra has remained almost the only constant. Sugar and phosphate have come and gone, but copra endures as an island product. Even more important, the copra industry has always been one that has brought direct benefits to Micronesians. Indeed, part of the reason that copra has had such a long history is that it is essentially a part of the rural semi-subsistence economy. It requires no great capital investment, no special skills, and no

reorganization of time to fit wage employment demands. It can be integrated nicely with traditional island living.

The early development of the copra industry has already been sketched in this economic history. Following the establishment of the first colonial governments in Micronesia, the copra industry continued to flourish despite severe fluctuations in the market price of copra in the early 1880s and a long decline until the turn of the century. German firms did most of the business in copra during this time except in the western Carolines where O'Keefe dominated until his death in 1901. The Japanese traders that were being settled on the islands during the 1890s gained a growing share of the trade, however.

The years of German colonial rule were good ones for the copra industry in Micronesia. Copra production doubled during this period, from about 6.5 million pounds around the turn of the century to 13 million pounds by 1913 (See Table 17). The value of copra exports reached 2 million marks by the end of German rule. One factor responsible for this growth may have been the steady climb in the price of copra during this period; it rose from 276 marks per ton in 1900 to 530 by 1913. Another factor was undoubtedly the German policy of having all adults plant coconut trees (generally 4 to 10 a month was the quota). This practice was first initiated in the Marshalls during the 1890s and afterwards extended to the Carolines when the Germans gained control of these islands.

Copra production in the Marshalls and the eastern Carolines grew steadily during German times, except in 1906 and 1907 on account of damage that trees suffered in the great typhoon of 1905. Production in the west was much more uncertain, however. Copra production came to a standstill on Yap in 1900 and 1901 because of an insect that was killing trees there, and it was stopped again between 1906 and 1908 because of drought. It was years before these problems were eliminated completely, and Yap never regained its former position as a chief source of copra.

Under the Japanese government, the copra output in Micronesia continued to increase. The Japanese, like the Germans, encouraged the planting of coconut trees and provided regular steamship service for the collection of copra. A network of Nanyo Boeki Kaisha trading stations and stores traded in copra and offered imports in exchange. Despite the enormous productive efforts that the Japanese made in sugar and marine products, copra exports again doubled during the years of the Mandate. From 13 million pounds a year that was being produced at the end of German rule, exports rose to 26 million pounds during the mid-30s. The all-time high for copra production in Micronesia occurred in 1937 when the islands turned out about 34 million pounds. Even so, the income from copra amounted to no more than 8% of the total export value at this time. Copra was eclipsed by sugar and dried bonito as a cash product.

Copra exports were understandably hurt by World War II, but by the mid-50s production returned to approximately the same level as during Japanese times. Throughout the subsequent 25 years of American administration copra exports ranged between 20 and 30 million pounds a year and were the main source of income. In 1977 Palau began operating a

copra processing plant, and the following year another processing plant opened in the Marshalls. This brought about a significant increase in the value of copra exports, even though the Palau plant shut down within a few years. Total coconut oil and copra exports for FSM, Marshalls and Palau are estimated at about \$5 million a year at present.

Copra Production by District

Not long after the beginning of the copra industry in Micronesia, in the early 1880s, Yap and the Marshalls produced about the same amount of copra: about 2 or 3 million pounds yearly. By the turn of the century, however, the Marshalls were producing three times as much copra as the western Carolines. From that time on, the Marshalls steadily outproduced every other island group, supplying over half of the total copra exported from Micronesia (See Table 16).

Truk and Ponape began to produce sizable amount of copra for the first time under German rule. The Marianas already had a flourishing copra trade underway, thanks to the Carolinians living on Saipan and the new trading interests entering the islands at this time. Production in Yap and Palau was relatively low during German times and remained low thereafter.

Patterns of copra production remained quite regular during the Japanese period and throughout American administration. The only notable decline during Japanese times was in the Marianas, and this was due to the use of former coconut plantations for the cultivation of sugar.

During the past 30 years of American administration, production by island group has varied as follows:

- Marshalls Production remained at about 10-14 million lbs. yearly from the late 1930s to the present, with an average production of about 12 million lbs. These figures seem to represent a high plateau for copra production in the Marshalls.
- Ponape In 1950-1980, Ponape produced 3-8 million lbs. a year. There was a drop-off in the 1970s to an average of 3.3 million lbs. annually.
- Truk 1950-1980 production fluctuated at about 4-7 million lbs., with an average of 5.4 million lbs. in recent years.
- Yap 1950-80 production was between 1 and 2 million lbs., but there was a significant drop in the 1970s to about 1 million lbs.
- Palau Production was about 1.5 million lbs. in the early 1950s. This went down to less than 1 million lbs. by 1967, and dropped sharply again to ~ million lbs. during the 1970s as Palau modernized.
- Marianas Production never exceeded 1 million lbs. a year, but in the 1970s there was a great drop to about 0.2 million lbs. a year. This again was due to rapid modernization and abandonment of the semi-subsistence economy.

Appendix II: PHOSPHATE INDUSTRY

Phosphate was first discovered in Nauru (then a part of the German protectorate in the Marshalls) in 1899. Mining operations were begun in 1902 by the Pacific Phosphate-Company,

a joint Anglo-German concern in which Germans held one-third of the stock. The Jaluit Company was given a free 10% share in the company and royalties on all phosphate that was mined. The mine increased its output rapidly between 1908 and 1912, and phosphate production soon became a far more important source of foreign exchange than copra. By 1911, phosphate exports accounted for 5,308,000 marks out of a total export value of 6,271,000 for eastern Micronesia (See Table 18). Hence, phosphate constituted 85% of the value of all exports.

Phosphate was also found on Angaur, and mining operations began there in 1908 with the formation of the Deutsche Sudsee Phosphat A.G. This government-owned German consortium bought almost the entire island from the chiefs of Angaur for 1200 marks (or 60), and the people were relegated to the southeast corner of the island. Production increased quickly from 8,600 tons in 1909 to 90,000 tons in 1913. In 1911, the value of phosphate exports were 1,250,200 marks out of a total export value for the western part of Micronesia of 1,646,242. This represents 76% of the total export value of the western islands.

By the end of German rule, the two mines were producing about 200,000 tons of phosphate yearly at a value of nearly 9 million marks, or 90% of the total export value. The Nauru mine, the more productive and larger of the two, paid export taxes to the German government on the phosphate it shipped out. Profits from the Angaur mine, on the other hand, were retained by the German government. Phosphate was by far the most lucrative industry under the Germans.

At first Chinese laborers were brought into Nauru to work in the mine, but when they proved sickly and uncooperative, Micronesians were recruited for this work. The same was true of the mine that opened on Angaur. A quota was set for islands in the eastern Carolines, and company officials in collaboration with the German administration signed up men from each place and transported them to the mines. Laborers signed on for six months at a time, worked 6 days a week and 9 hours a day, and earned 17 marks a month. It appears that there were about 1300 Micronesians employed in the mines, 800 of them working in Nauru and 500 in Angaur. These included in 1911 about 100 Ponapean prisoners who had been deported following the Sokehs rebellion.

At the outbreak of World War I, the British seized Nauru and afterwards kept control of the mine there. Meanwhile, the Japanese took over the Angaur mine together with the rest of the Carolines, and Japanese military authorities continued mining operations almost without interruption. In 1922 the Japanese government formally purchased the mine and all equipment from the Germans for 1.7 million yen. For a time, the South Seas Bureau itself supervised mining activities, but in 1931 the Bureau leased mining rights to Nanyo Kohatsu Kaisha.

For the first 20 years of Japanese rule, 1914-1935, phosphate production remained about what it had been during the last years of German administration: 60-90 thousand tons a year. It was only in 1935 and 1936 that phosphate production rose sharply, due to expansion of activities on Angaur and the opening of new mines on Fais and Peleliu. During the late 30s

between 120 and 200 thousand tons of phosphate were produced a year – double the output of the early years of Japanese administration. Mining activities continued during the war, although dropping sharply in 1944.

The Japanese, like the Germans before them, employed Micronesian laborers in the mine. In fact, this was the major source of wage employment during this period. The salary (13 yen monthly) and the term of contract (6 months) were comparable to those under the Germans. Working conditions in the mine were also similar. The Japanese seem to have averaged about 360 Micronesian laborers a year, fewer than the number the Germans employed since the Japanese had 100 of their own people working in the mines.

At the end of the war, the US military continued the sale phosphate from the mines without resuming actual digging, for the Japanese had left a considerable amount of stored phosphate on Angaur. Japanese employees were contracted to do this work; very few Micronesians were involved. For a few years following the start of civil administration in 1951, mining operations were reestablished and an average of 130,000 tons was exported each year. Finally, in June 1955 operations ceased altogether. With the proceeds of the phosphate sales a trust fund was started for the people of Angaur. Two dollars for each ton mined was deposited in the fund, which paid \$15,000 annually in 1954.

APPENDIX III: FISHING INDUSTRY

The fishing industry as such began under the Japanese. Prior to that time, there had been some attention paid to beche-de-mer, shark fin and other products for sale in China, but this trade had never been cultivated by a colonial administration in any systematic way.

Almost from the very beginning, Japan decreed that all fishing by non-Micronesians was to be licensed and supervised by the government. Micronesian fishing rights and procedures were reportedly not affected by this regulation, and fishing for local consumption was carried on throughout the period. Apparently, Micronesians were not affected by the buildup of the Japanese fishing industry for good or for ill.

In 1922 the Japanese initiated a study of marine products and a survey of all islands with an eye to developing a thriving industry. As Japanese immigration into the islands stepped up, the fishing industry began to grow. The government provided a subsidy for any group of expatriates who wanted to do tuna fishing. With the subsidy, which provided for a motor boat and equipment, the men were required to sell their catch to the firms that processed and sold the fish. The fishing industry was built upon many independent, small groups rather than a single large monopoly.

In 1926, Japanese firms (principally NKK) began to produce and export katsuobushi, or dried bonito. This grew steadily through the 1930s until the industry reached its highwater mark in 1940 with an export value of 8.7 million yen (See Table 19). Other forms of marine produce were exported, some of them providing a considerable income, but this was virtually the only fish as such that was exported. The rest of the commercial catch, which rose to 32 million pounds in 1936, was undoubtedly sold for consumption in the islands. Some of this

fish was canned at the plants on Truk and Jaluit.

It is worth noting that the commercial catch between 1930 and 1940 averaged 26.5 million pounds. The two biggest fishing centers of this time were Palau and Truk, each with an average catch of over 8 million pounds, while Ponape and Saipan both did less than half that business with a catch that averaged 3 or 4 million pounds in each place. The average yearly catch of tuna between 1930 and 1940 was 26 million pounds, with the following distribution by districts:

Palau: 8,864,000 lbs.

Yap: 75,000 lbs

Marianas: 4,097,000 lbs

Truk: 9,490,000 lbs

Ponape: 3,617,000 lbs

Marshalls: 397,000 lbs.

The fishing industry was scuttled by the war and had to be rebuilt from nothing during the early years of American administration. Beyond the usual local fishing for subsistence, there were sporadic attempts to export fish to Guam in the early 1950s. Yet, the real buildup of the industry did not begin until 1957. Exports grew slowly to \$93,000 by 1967 before they began to fluctuate wildly.

In the meantime, Van Camp Seafood Company opened operations in Palau in 1964 with a 1500-ton freezer-storage plant and a fleet of eight tuna vessels. Its fleet grew to as many as 16 vessels at times, and ten years after it began it was bringing in 20 million pounds a year at a value of \$3 million. This was double its average catch for the first five years of its activities. Van Camp continued to operate at a level of about 20 million pounds per year until the company closed its Palau plant in 1982.

Van Camp's effects on other local fishing operations are hard to discern. Its impact on the Palau economy was small considering the size of the operations. In 1972, it is estimated that Van Camp contributed \$230,000 to the local economy: \$160,000 in the salaries of the 50 shoreside laborers, another \$42,000 in local purchases, \$10,000 in fuel taxes and license fees, and \$20,000 on ships repairs. Virtually none of the fisherman were Palauans; they were almost all Okinawan.

With the recent closing of Van Camp, the annual commercial catch has dropped to an estimated 2 million pounds. There have been a number of recent attempts to export frozen fish to Guam, but it is hard to estimate an annual value for these exports. In any case, the present strategy of the new governments seems to be to lease fishing rights to other nations rather than to develop commercial fishing industries on their own. In 1983 FSM, Palau and the Marshalls received a total of nearly \$4.5 million for fishing rights in their waters.

NOTE: Many of the tables that appear in the original article have been removed from this text. A full copy of the article, complete with all tables, can be requested through

Table 6: Inflows of Payments, 1947-1982 (million US \$)

Year	Exports	US Assistance
1947		1.0
1948	2.4	1.0
1949	2.1	1.1
1950	1.6	0.8
1951	2.2	1.0
1952	1.8	4.3
1953	1.2	5.2
1954	3.3	4.3
1955	4.3	5.0
1956	1.7	5.0
1957	1.6	4.8
1958	1.7	6.2
1959	1.2	4.9
1960	1.9	5.2
1961	2.1	5.9
1962	2.1	6.1
1963	2.2	17.0
1964	2.7	18.0
1965	3.2	21.5
1966	3.6	21.9
1967	2.3	25.2
1968	3.0	26.3
1969	2.9	36.2

1970	4.2	54.6
1971	3.0	67.3
1972	2.6	68.1
1973	1.9	69.4
1974	8.0	69.5
1975	6.8	81.7
1976	4.8	100.9
1977	10.3	114.2
1978		132.6
1979	16.5	138.7
1980	15.6	124.5
1981		120.0
1982	8.1	119.9

Source: US Annual Reports for exports and the Draft Environmental Impact Statement for the Compact of Free Association for US Assistance.

Table 8: Micronesians Employed (Government and Private): 1957-1979

Year	FSM	Marshall Islands	Palau Islands	TT Total	Northern Marianas	Overall Total
1957	1571	742	718	3031	1170	4201
1958	1925	844	903	3672	1327	4999
1959	1760	733	775	3268	926	4194
1960	1687	780	578	3045	1288	4273
1961	1608	783	641	3032	1175	4207
1962	1557	862	620	3039	1066	4105
1963	1961	1725	786	4472	1288	5760
1964	2561	1714	894	5169	1451	6620
1965	2909	1940	1381	6230	1272	7502

1966	3107	1717	1397	6221	1428	7649
1967	3173	1775	1353	6301	1921	8222
1968	3063	1795	1771	6629	1991	8620
1969	3265	2018	1627	6910	2304	9214
1970	4702	2796	1893	9391	3045	12436
1971	5558	2777	2266	10610	3286	13887
1972	5597	2711	2088	10396	3590	13986
1973	6108	2889	2213	11210	3733	14943
1974	6635	2983	2392	12010	3776	15786
1975	7499	3200	2551	13250	3995	17245
1976	9417	4079	3119	16615	4822	21437
1977	10752	4245	3227	18224	5325	23549
1978	—	—	—	—	—	—
1979	11578	3977	3228	18783	—	—

Table 9: Total Wages and Salaries, 1957-1979. (Thousands US\$)

Year	FSM	Marshall Islands	Palau Islands	TT Total	Northern Marianas	Overall Total
1957	667	501	373	1574	1062	2603
1958	1050	610	413	2073	841	2914
1959	1064	583	402	2049	931	2980
1960	1006	622	431	2059	932	3011
1961	962	695	535	2192	1153	3345
1962	1085	728	542	2355	1157	3512
1963	1314	1419	624	3357	1072	4429
1964	1728	1676	891	4295	1288	5583
1965	2461	1723	980	5164	1878	7042

1966	3042	1712	1175	5929	1809	7738
1967	2931	2498	1284	6713	2335	9048
1968	3565	3669	1760	8994	3078	12072
1969	4630	3926	2033	10589	4152	14741
1970	6816	5588	2927	15331	5220	20551
1971	7941	6145	3458	17544	6640	24184
1972	10870	6689	4390	21949	9058	31007
1973	12799	7582	5114	25495	10140	35635
1974	15279	8363	5961	29602	10827	40429
1975	17774	9395	6644	33813	12908	46721
1976	19300	10067	7586	36954	13671	50625
1977	21236	10943	7723	42781	15438	58219
1978	21795	10855	7998	43842	—	—
1979	25267	12053	8437	41547	—	—

Table 10: US Assistance by Category, 1947-1982 (million US\$)

Year	CIP	Federal Programs	DOI &Other	Total
1947	0.0	0.0	1.0	1.0
1948	0.0	0.0	1.0	1.0
1949	0.0	0.0	1.1	1.1
1950	0.0	0.0	0.8	0.8
1951	0.0	0.0	1.0	1.0
1952	0.0	0.0	4.3	4.3
1953	0.0	0.0	5.2	5.2
1954	0.0	0.0	4.3	4.3
1955	0.0	0.0	5.0	5.0

1956	0.0	0.0	5.0	5.0
1957	0.0	0.0	4.8	4.8
1958	0.0	0.0	6.2	6.2
1959	0.0	0.0	4.9	4.9
1960	0.0	0.0	5.2	5.2
1961	0.0	0.0	5.9	5.9
1962	0.0	0.0	6.1	6.1
1963	0.0	2.0	15.0	17.0
1964	0.0	3.0	15.0	18.0
1965	0.0	4.0	17.5	21.5
1966	0.0	4.5	17.4	21.9
1967	0.0	6.0	19.2	25.2
1968	0.0	6.1	20.2	26.3
1969	7.6	6.2	22.4	36.2
1970	20.6	6.5	27.5	54.6
1971	25.3	7.4	34.6	67.3
1972	20.7	8.1	39.3	68.1
1973	16.3	9.4	43.7	69.4
1974	10.2	11.1	48.2	69.5
1975	14.8	11.9	55.0	81.7
1976	14.3*	11.5	75.1	100.9
1977	14.4*	25.1	74.7	114.2
1978	30.7	31.0	70.9	132.6
1979	54.3	24.1	60.3	138.7
1980	41.9	25.5	57.1	124.5
1981	20.7	25.5	73.8	120.0
1982	2.0	21.3	96.6	119.9

*Us Annual Report. 1982 gives only a combined figure for 1976 and 1977. In the above table

each year is assumed to account for roughly half of the combined amount.

Sources: DRAFT ENVIRONMENTAL IMPACT STATEMENT FOR THE COMPACT OF FREE ASSOCIATIONS, p. 27, for Federal Program assistance and total US appropriations; FIVE YEAR INDICATIVE DEVELOPMENT PLAN, 1976-1981 gives expenditures for capital improvements for years 1969 to 1975; US ANNUAL REPORT, 1982 gives expenditures for capital improvements for years 1976 to 1982; Department of Interior and other grants are calculated as the difference between total and CIP ad Federal Programs.

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