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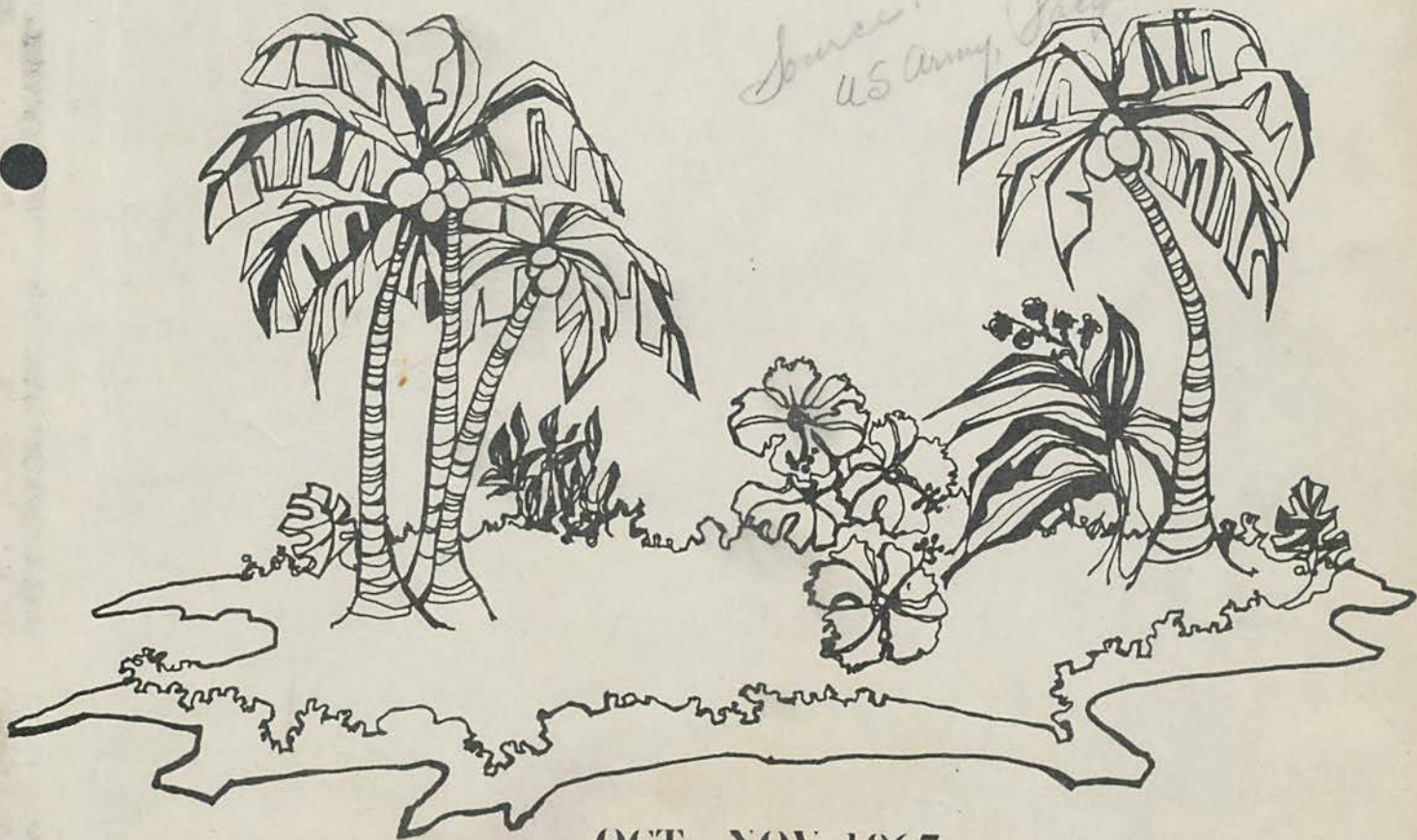
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# PACIFIC ISLAND SURVEY



## TRIP REPORT ANNEXES

*Source:  
US Army Pacific*



OCT - NOV 1967

ANNEXES TO "PACIFIC ISLANDS SURVEY" TRIP REPORT

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ANNEX A  
GENERAL INFORMATION

ANNEX A

GENERAL INFORMATION

A. Trust Territory of the Pacific Islands.

The Trust Territory of the Pacific Islands is a strategic trusteeship given by the United Nations to the United States including a 3 million square mile area of the Pacific Ocean. Two thousand one hundred islands with 700 square miles of land area are included. Of these, only 97 have regular populations. A total of 92,373 inhabitants were included in the 30 Jun 66 population estimate.

The Trust Territory consists of six administrative districts: Marianas, Palaus, Yap, Truk, Ponape and the Marshalls. Headquarters is on Saipan in the Marianas. The trusteeship was approved by President Truman on 18 Jul 47 and responsibility was assigned to the Secretary of the Navy with CINCPACFLT as High Commissioner. In early 1951 a civilian High Commissioner was appointed and on 1 Jul 51 responsibility shifted to the Department of the Interior.

The present High Commissioner is the Honorable William R. Norwood; the Deputy High Commissioner is Mr. Martin P. Mangan.

The Trust Territory administrative staff at the Provisional Capital at Saipan includes:

Asst. Comm. for Administration	Joseph F. Screen
Asst. Comm. for Community Svcs	James E. Hawkins
Asst. Comm. for Public Affairs	N. Neiman Craley, Jr.
Asst. Comm. for Resources & Dev.	Paul L. Winsor
Attorney General	Robert K. Shoecraft
Director of Budget & Finance	Leslie Arentzen
Personnel Officer	Richard F. Kanost
Director of Communications	John E. Welch
Chief, Engr & Const. Svcs	Howard W. Waite
Acting Dir. of Property & Supply	Harold E. Arnold
Director of Education	John R. Trace
Director of Public Health	Dr. William Peck
Public Information Officer	Luke M. Tman
Director of Agriculture	Manual N. Sprcat
Cooperatives Officer	Samuel X. Mitchell
Chief Justice	Edward P. Furber

Each district within the Trust Territory is administered by a District Administrator, normally referred to as the Distad. The special staff composition varies in each district but usually includes Public Works, Finance, Administration, Economic or Community Development, Public Health, Education, Agriculture and Public Land.

District Administrators as of November 1967 were:

Palau	J. Boyd MacKenzie
Yap	James Flannery
Truk	Alan M. MacQuarrie
Ponape	Robert Halvorsen
Marianas	Peter T. Coleman
Marshalls	Dwight Heine

The island units of the Trust Territory vary from single islands to large groups of islands and atolls and from small units (49 are under one square mile in area) to large islands such as Babelthuap in the Western Carolines (150 square miles) and Ponape (129 square miles). They differ in elevation from six feet above sea level on the low-lying coral atolls to 3,166 feet on Agrihan Island in the Marianas, and 2,579 feet on Ponape Island in the Eastern Caroline group.

#### B. Logistic Support.

The TTPI maintains the MV Pacific Islander, a Navy AK class ship, for regular logistic trips throughout the territory. In addition, each district has a smaller ship for its own service. These are named the Palau Islander, Yap Islander, Truk Islander and Kaselehlia (for Ponape). They average 100 feet in size and are approximately 300 tons in displacement.

Minimal logistic support is provided by the contract air service to the district centers utilizing the two DC-4's and two SA-16's belonging to the Trust Territory. (See Illustrations 1 and 2)



Illustration 1: DC-4, one of two owned by TIPI and flown by contract for passenger and logistic flights to district centers.



Illustration 2: SA-16, one of two owned by TIPI and used for emergency flights to outer islands and regular service to Ponape.

Plans for the new air contract are for QC-727 jets--the QC stands for "Quick Change" as the aircraft can be all cargo, 2/3 cargo and 1/3 passenger; 1/3 cargo and 2/3 passenger, or all passenger by changing pallets within the airframe. The logistic situation on Ponape will continue to be critical pending completion of its airfield, however, as there are no plans for larger amphibian service.

C. ZIP Codes.

U. S. Post Office ZIP codes for the Pacific Islands are as follows:

Guam	96910
Saipan	96950
Rota	96951
Koror, Palau	96940
Ponape	96941
Truk	96942
Yap	96943

#### D. Prehistory.

The prehistory of Micronesia is not established. It is believed that the islands were settled by a series of migrations from the Islands of Malaysia, although the Micronesians have no clear records of such migrations in their historic legends, which usually depict them as having originated in their present homelands. Prehistoric remains, of cities of long ago still survive on Ponape, Kusaie and Tinian.

#### E. History.

In 1520 Magellan sailed through Polynesia, Melanesia and Micronesia without sighting land until he reached the Marianas. Portugese and Spanish exploration of the area was extensive following Magellan's discovery and Spanish colonization of the Marianas and Carolines ensued. In the 1800's both Protestant and Catholic missionary activity proceeded throughout the area with the Spanish area (Marianas and Western Carolines) largely Catholic and the German area (Marshalls and Eastern Carolines) Protestant. The Proteatant mission ship Morning Star (financed by church collections in New England) sailed throughout the Micronesian area and actually discovered some islands, e.g. Marcus. A total of 7 or 8 Morning Stars existed since a replacement was furnished whenever one was lost; the last Morning Star went out of existence as the air service to the islands improved after World War II.

Following loss of the Spanish-American War in 1898, Spain offered all her island possessions to the U. S. The U. S. refused all except Guam where upon Spain sold the islands to Germany for the equivalent of four million dollars! Germany retained the islands until her loss of World War I. Japan was most eager to take over the islands and they were mandated to her by the League of Nations. She soon violated the mandate by fortifying the islands and refusing free access to them. Shortly thereafter, she left the League of Nations and used the islands as major bases in preparation for World War II. Following WW II the islands were given to the U. S. by the UN as a "strategic trusteeship" and that is their present status. Discussions have been held in the U. S. Congress relative to a plebescite in the Trust Territory to be held within the next five or ten years to determine

their future relationships. More permanent affiliation with the U. S. is to be expected in the future.

F. Trusteeship Agreement.

All islands mentioned in this report, with the exception of Guam, are part of the Trust Territory of the Pacific Islands. This is a strategic trusteeship, the only one issued, and is governed by the following Articles of Trusteeship.

"Trusteeship Agreement for the Former Japanese  
Mandated Islands"

Article 2

The United States of America is designated as the administering authority of the Trust Territory.

Article 5

In discharging its obligations under Article 76 (a) and Article 84 of the Charter, the administering authority shall ensure that the Trust Territory shall play its part, in accordance with the Charter of the United Nations, in the maintenance of international peace and security. To this end the administering authority shall be entitled:

1. to establish naval, military and air bases and to erect fortifications in the Trust Territory;
2. to station and employ armed forces in the Territory; and
3. to make use of volunteer forces, facilities and assistance from the Trust Territory in carrying out the obligations towards the Security Council undertaken in this regard by the administering authority, as well as for the local defense and the maintenance of law and order within the Trust Territory.

G. Alternate Names.

In documents concerning the Pacific Islands, alternate names or spellings are often encountered. To simplify research the following equivalent names are provided:

Island or GroupEquivalent Name

Ryukyu	Luchu, Loo-choo
Bonins	Ogasawara, Munin, Bunin
Chichi Jima	Peel
Marcus	Minanitori Shima
Marianas	Mariannes, Ladrones, Islas de las Velas Latinas, Isles of the Lateen Sails
Guam	Guajan, Guahan
Yap	Uap, Guap, Wap, Yappu, the Land, Ruul
Palau	Pelew, Balao, Palao, Parao
Babelthuap	Babeldaob, Babelthaob, Baberudaobu, Babelthaup, Arrecifos
Koror	Korrer, Corrol, Kororu
Arahabesan	Ngarekobasan, Arkabesang
Malakal	Marakaru
Eil Malk	Makarakaru, Irakong
Peleliu	Peliliu, Periryu
Angaur	Village of the Dead, N'Yaur, Angauru
Uleai	Ulle, Woleai, Wolea, Meryon
Enderby	Endabi, Puluwat
Pulap	Pourappu
Truk	Ruk, Hogolu, Te-Fan, Torakku
Moen	Haru, Harushima, Wena
Dublon	Toloas, Natsu, Natsushima, Tonoas
Fefan	Aki, Akishima
Eten	Take, Takeshima
Uman	Fuyu, Fuyushima
Udot	Getsuyo
Fala	Falat, Kwaiyo, Kayo
Tol	Suiyo, Ton
Ponape	Ascension, Puynipet
Chokach	Jokaj, Jokaji, Shokej, Shokach
Kusaie	Valao, Strong's, Ualan
Lale	Rere
Eniwetok	Enewetok, Brown
Fanapengas	Tuesday, Fala-Beguets
Pagan	San Ignacio
Farallon de Pajaras	Uracas
Ulalu	Romanum

H. Language.

The Trust Territories do not contain a common language, other than English, and all legislative and judicial proceedings utilize English with translators for the appropriate local tongue. An extensive program in the schools is named TESL, for Teaching English as a Second Language, and most school children have some command of English today.

There are a minimum of nine different languages in the TTPI and these have many dialects which are considered by some linguists to be separate languages rather than dialects. The languages do not have a common base sufficient for one group to understand the other. The Chamorroan in the Marianas cannot understand Yapese; the Yapese and Paláuan cannot converse nor can the Trukese, Ponapese, Kusaian, Marshalese, etc. The argument for teaching a common native language throughout the Trust was overcome when it was realized that all native languages have extremely limited vocabularies and cannot transmit the intelligence required for today's developing world. No technical language exists and even the Bible is not susceptible to translation into some of the simpler tongues of Micronesia. The TESL program, started in 1963, should be a major building block in the development of the Trust Territories.

#### I. Flora.

Vegetation grows abundantly on the high islands of volcanic formation, whereas the others having as their basis low coral limestone formations, are limited in soil productivity.

In the more verdant areas the sun's warmth and the rains combine to produce specimens of remarkable size, with yams as big as pumpkins and string beans more than a foot long. Tropical fruits, vegetables and flowering plants grow abundantly with and without cultivation. Bananas are plentiful throughout the area and other tropical flora found in the Trust Territory include coconut, breadfruit, pandanus, lime, orange, papaya, pine, mango, mangrove, various other indigenous hard and soft wood trees, hibiscus, ginger, pineapple, taro, sugar cane, tapioca, and different grasses. Some adapted vegetables which also thrive are sweet potatoes, squash, corn, chinese cabbage and arrowroot. Red hibiscus and other flowering plants and trees cover the landscape with color and luxuriant green foliage.

#### J. Climate and Weather.

Contrary to the popular notion that the tropical climate of Micronesia is almost unbearably hot, the islands of the Trust Territory are visited by winds which blow the year round and by temperatures which have never been recorded above 96° F nor below 61° F. The mean annual temperature is 80° F and the breezes which sweep over the islands make this usually a comfortable 80°.

Rainfall is generous, ranging from 60 to 90 inches in the northern portion and from 120 to 160 inches a year in the southern half, with the distribution fairly even throughout the year. With all the rainfall, there are few occasions when the sun does not shine brightly

at least part of the day, and the physical geography is such that often rain will fall in a particular area while the sun is shining brightly a few miles away. Micronesia claims the most beautiful sunrises and sunsets in the world.

Typhoons sometimes cause considerable loss of life and thousands of dollars of damage. Excellent communications and weather bureau warnings combine to lessen the casualties from typhoons today, but they may develop at any time of the year. Typhoons occur with greatest frequency between July and November.

#### K. Cultures and Customs.

Although broadly classed as Micronesians, the citizens of the Trust Territory do not have a homogenous culture. Manners of living differ widely among the islands of Micronesia, ranging from Yap and its outlying atolls where the population clings with few changes to the old concepts and customs, to Saipan and Rota where the people have adopted many of the conventions and conveniences of modern society.

#### L. Peace Corps.

The Peace Corps entered Micronesia in 1966 and is widely scattered throughout all islands. A training center is in use on Udot, Truk with a capacity of 500 students. Their second class is being placed throughout the islands during December 1967. Highest ratio of Peace Corps trainees to natives is on Yap which has over 70 Peace Corps for a population of 4,100. No significant study was made of the Peace Corps during the visit--as in all organizations some seem to be excellent representatives of the United States and others appear to have severe personal problems of their own which may negate their effectiveness. The degree of control or supervision by the District varied widely between the Districts and could have a significant effect on the amount of "leadership" exerted. Major projects include a medical survey and census, assisting in the school systems and providing public health assistance.

#### M. Greeting Words.

Words of salutation or greeting, similar to the Hawaiian's "Aloha," used in the Trust Territories are as follows:

<u>Island Group</u>	<u>Greeting</u>
Marianas	Enfo Adai
Falauis	Dimoikun
Yap	Kafol

Island Group

Greeting

Truk  
Ponape  
Marshalls

Ran Annim  
Kaselehlia  
Yokwe Yuk

N. Development of a Master Plan.

A master plan for the Trust Territories is under preparation by the Hawaii Architect and Engineers company as a contractor of the TTPI. Master planners are in residence on Saipan, Koror and Ponape. The first phase of their contract is to be completed in early 1968. Their report should provide a valuable reference as the planners are compiling statistics and creating maps of types not previously available.

O. References.

Detailed current information on each district is available in the Trust Territory pamphlets: "This is (Palau, Yap, etc.)" available from TTPI on Saipan.

The Nathan Report "Economic Development Plan for Micronesia" dated December 1966 (3 volumes, 4 parts) contains background information in the economic field but is rapidly becoming dated.

Military geology volumes exist on all major islands except for Ponape. The Ponape work was completed but the report was never published.

The Pacific Islands Yearbook is published by an Australian firm on an annual basis. It contains general information and advertising. Information on Micronesia is minimal and, in some cases, not completely accurate.

General background is contained in "Paradise in Trust," by Robert Trumbull, William Sloane Associates, N. Y., 1959, and in "A Reporter in Micronesia" by E. J. Kahn, Jr., W. W. Norton & Co., N. Y., 1966. These two volumes provide the best background on the area that is reasonably current. Other volumes include Willard Price's "Japan's Isles of Mystery" and his 1966 update entitled "America's Paradise Lost," John Day Co., N. Y., 1966.

The Annual Reports by the High Commissioner to the UN are a valuable reference for the political and economic developments in the islands. These reports are available through TTPI Headquarters or the Department of the Interior.

P. STATISTICAL SUMMARY, TTPI

GUAM (Not in TTPI)

Dimensions: 30 x 8 miles  
Area: 206 square miles  
Population: 86,000 (incl 29,000 military)

MARIANAS DISTRICT

District total	183 square miles
	10,743 inhabitants
Saipan	14 x 6 miles
	46 square miles
	8,664 inhabitants
Tinian	12 x 6 miles
	39 square miles
	596 inhabitants
Rota	11 x 4 miles
	34 square miles
	1,142 inhabitants

PALAU DISTRICT

District total	185 square miles
	11,225 inhabitants
Babelthuap	27 x 8 miles
	150 square miles
	4,258 inhabitants
Koror	3 square miles
	5,132 inhabitants

YAP DISTRICT

District total

50 square miles  
6,606 inhabitants

Yap Islands

15 x 6 miles  
46 square miles  
4,100 inhabitants

TRUK DISTRICT

District total

46 square miles  
26,602 inhabitants

Truk Atoll

30 x 38 miles  
823 square miles water  
38 square miles land  
18,378 inhabitants

PONAPE DISTRICT

District total

176 square miles  
18,958 inhabitants

Ponape Island

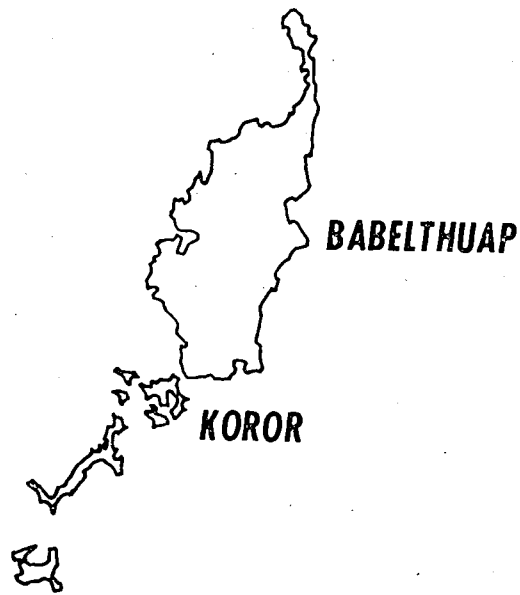
12 x 14 miles  
129 square miles  
12,843 inhabitants

ANNEX B

THE PALAU DISTRICT

 **KAYANGEL**

**PALAU ISLANDS**



**BABELTHUAP**

**KOROR**

 **PELELIU**

 **ANGAUR**



ANNEX B

THE PALAU DISTRICT

General

The Palau Islands are the westernmost islands of the Carolines and of the Trust Territories of the Pacific Islands. They extend some 90 miles north to south and 20 miles east to west. There are about 200 islands in the Palaus with 185 square miles of land area and 11,225 inhabitants as of 30 Jun 66. All islands except the southernmost, Angaur, are enclosed within a barrier reef. The Palaus are 4,600 statute miles from Hawaii, 200 miles from Tokyo and 550 miles from the Philippines.

Major islands in the Palaus include:

<u>Name</u>	<u>N. Latitude</u>	<u>E. Longitude</u>
Babelthuap	7.30	134.30
Koror	7.20	134.30
Urukthapel	7.15	134.25
Eil Malk	7.08	134.25
Peleliu	7.00	134.15
Angaur	6.55	134.10

The main islands, Babelthuap, Koror, Urukthapel, Eil Malk and Peleliu are surrounded by a coral reef, about 70 miles long, that fringes the eastern shore but widens out on the western side. The lagoon on the western side of the islands is about 40 miles long and 8 miles wide. The reef is difficult to cross except in a few places. To the north of the main islands, there is an atoll (5 by 2 miles) with the four low, sandy Kayangel Islands rising a few feet above the water. To the south of Koror is Peleliu Island with its now unused runways, taxiways and hardstand from World War II. South of the barrier reef is Angaur which had important phosphate deposits, extensively mined during the Japanese period, and is now used as a Coast Guard loran station.

District headquarters is on Koror, an island of 3 square miles with a population of 5,132. Koror is connected to two neighbor islands, Malakal and Arakabesan, by causeways (See Illustration 1) to form a single complex. Malakal provides the deep water port (See Illustration 2) tuna fisheries, boatyard and rock quarry, while Arakabesan has the seaplane ramp (See Illustration 3) and agricultural areas. Koror had a Japanese population of 20,000 but the town was almost completely destroyed during the World War II.



Illustration 1: Causeway between Arakabesan on left and in foreground and Koror which can be seen in background.



Illustration 2: Deep water port and pier on Malakal Island. View is looking southeast and shows entrance channel.



Illustration 3: View looking east from the seaplane ramp on Arakabesan toward Koror.

The largest island in the Trust Territories is located in the Palaus just to the north of Koror; it is Babelthuap with 150 square miles of land area, 27 by 8 miles in size, and with a population of 4,258 concentrated in small villages along the coasts. Maximum altitude of Babelthuap is 794 feet. (Mt. Ngerekelehuus) It is connected to Koror by World War II "M" Boat ferry (See Illustrations 4 and 5) and contains the airfield used commercially by the Trust Territories.



Illustration 4: Aerial view looking west of ferry channel between Koror on the left and Babelthuap on right. Long moles have been built on coral shelving; ship channel is approximately 300 yards wide and 120 feet deep.



Illustration 5: World War II "M" boat ferry used in Palau.

### Climate

The outstanding characteristic of the climate of the Palau Islands is the monotonous uniformity of the climatic elements throughout the year. A purely maritime tropical area, there are no seasons as we know them in mid-latitudes. There is, however, frequent heavy rainfall and consistently high humidity. The area is dominated by trade winds. Monthly mean cloudiness seldom falls below 60%. Rainfall is uniform and heavy throughout the year, averaging 148 inches, the drier months are from February through April. Typhoons may occur in any month but are least common from February through April and most common from July through November.

Babelthuap Island

Babelthuap Island, 27 by 8 miles in size, is the largest island in the Trust Territories. It consists largely of gently rolling land (See Illustrations 6 and 7) with beaches on the east coast and mangrove swamp out to the water on the west. The entire island is surrounded by a shallow coral shelf extending out 1/4 to 1/2 mile and requiring high tide for even shallow draft boat operations near shore.



Illustration 6: View from Babelthuap airstrip near Airai looking southeast.



Illustration 7: Interior view of Babelthuap near agricultural station in west-central portion of the island.

Throughout the island, extensive terracing shows that at one time the island supported a much greater population than currently. Estimates of the recent prehistory period are that up to 100,000 natives lived on Babelthuap; today's approximately 5,000 inhabitants are located mainly in small villages on the coast (See Illustrations 8 and 9) and the interior of the island is largely uninhabited. The Japanese had a bauxite mining operation on the northwest of the island and constructed some roads which have fallen into disrepair and can no longer support vehicular traffic.



Illustration 8: Typical sheet-tin native home on Babelthnap. Note Japanese stone road now used as trail.



Illustration 9: The abai, or "All Men's House", at Airai on Babelthup. This is an excellent example of old Palauan architecture and of the "story-board" picture language which tells a story of World War II and Japanese use of the airstrip on Babelthup.

The Trust Territory airstrip is on southeast Babelthup near the village of Airai. It handles commercial DC-4 traffic by the TTPI contractor, Pan Am, and is due to be modified for 727 jet traffic by the new contractor for the TTPI air services, Air Micronesia. The airfield has a dirt road connecting it with the ferry site to Keror. The only other government or Trust Territory installation on Babelthup, excluding schools, is the agricultural station in the west-central region where experimental plantings of mahogany and other potential economic crops are underway.

The channel separating Babelthup and Keror is approximately 300 yards wide and 120 feet deep. USN has refused to allow permanent bridging to date as this is a deep-water channel; the TTPI personnel

stationed on Koror cannot recall a major ship traversing the channel so its use is quite infrequent. The ferry is a World War II "M" Boat which can carry two jeeps or small cars. It is badly rusted and in need of major overhaul. When the "M" Boat is out of commission, there is no access to Babelthuap except by small boat and no practical cargo or aviation fuel transportation is possible between Koror and the airfield.

The east coast of Babelthuap is quite scenic and has excellent sandy beaches and dense coconut forest. The southeast coast has heavy mangrove swamp extending out to the very rugged rock islands so that they appear to be a single island (See Illustrations 10 and 11). The southwest area of Babelthuap is quite open and gently rolling land. Farther north, the west coast becomes more hilly and the island becomes narrower.



Illustration 10: The east coast of Babelthuap above Ngiwal. Note the lush coconut forest and the sandy beach. Water depth at high tide where picture was taken is under six feet.



Illustration 11: Aerial view of south Babelthuap showing Rock Islands seemingly connected to island by mangrove swamp.

#### Transportation

Aerial: There are two airfields in the Palaus in current operation. These are the 6,000 foot coral strip at Airai, Babelthuap (used in commercial DC-4 service but has no support facilities available) and the 7,000 foot bituminous strip on Angaur used for Coast Guard logistic service. Additionally, World War II airfields existed on Peleliu and its neighboring islet, Ngasebus, but these have been unused for the past twenty years and would need substantial repair. A seaplane operational area is located on the north side of Arakabesan Island over a depth of approximately 10 feet. A 30,000 square foot

concrete parking apron on the island is in good condition.

Water: The major ship belonging to the Palau District is the Palau Islander which makes regular supply trips to Guam and Saipan. Koror is the principal port and operations are conducted at two natural basins, Koror Harbor and Malakal Harbor. The principal wharves in Malakal Harbor, with a total length of some 1,800 feet, are substantial quays in good condition. The least berthing depth is 28 feet. Koror Basin on the north side of Koror Island is used primarily by private and government small craft plying between Koror and Babelthuap Islands. Koror and Malakal Harbors provide adequate anchorages for several deep-draft vessels. Anchorage areas have depths of 200 to 60 feet over a bottom of very fine sand and good holding ground. Transportation within the Palaus is by shallow-draft outboard (See Illustration 12) usually with a pair of Johnson engines, and depends strongly on the tides as the fringing coral reefs are extensive around the major islands.



Illustration 12: Typical shallow-draft craft used for Trust Territory trips between islands in the Palaus.

### Utilities

In Koror as in each district center in the TTPI, treated water supply and excreta disposal systems are mainly limited to housing areas for US Government employees, hospitals and a few Government and Mission schools. Rain water, collected in barrels and cisterns from roof catchment systems, is used throughout the islands even where other sources are available. Only Babelthuap is of sufficient size to have sustained stream flow and only Peleliu and Angaur have natural underground reservoirs holding substantial quantities of ground water. If required, the streams on Babelthuap could be developed to produce about 50 MGD (million gallon day). A municipal water system is available at Koror. Primary water source is from the reservoir on the Gihmel River in southwestern Babelthuap. Electric power is provided by three Fairbanks Morse (pre-war) generators having a total capacity of 885 KW.

### Tourist Observations

Hotels: Palau has three operational hotels in Koror; the Royal Palauan (See Illustration 13), the DNT Hotel and the Blue Lagoon. The Royal Palauan is operated by Dr. Minoru Ueki for the TTPI and is near the District Headquarters in the center of Koror. The DNT and Blue Lagoon are new (since the typhoon of March 1967) and are located on Ebadul's Pier in Koror Harbor; as they are at sea level, they must be evacuated during typhoon alerts. All hotels charge \$9 per day including meals. Meals are adequate (reportedly best at the Royal Palauan) and can be excellent if the cook can be persuaded to prepare local specialties.



Illustration 13: The Royal Palauan Hotel in Koror. Like most TTPI hotels, the Royal Palauan has 10 double rooms and provides meal service. In addition, it has a bar and is the terminal for the Koror airport.

Radio: The Voice of Palau broadcasts on 1250 KH sporadically.

Fauna: Koror has an Entomology Station which maintains a small zoo containing examples of the animal life of the region. The most impressive exhibit is always the specimen of the sea crocodile which is found only in Palau. This creature is found in the rivers, mangrove swamps and on the reefs and has been known to kill fishermen and swimmers. Crocodiles range up to 18 feet in length (See Illustration 14).

The entomology station also maintains examples of the lizards, insects and snakes of the region. Palau contains the only land snakes in Micronesia with two species of harmless boa constrictors and has a poisonous water snake which can often be seen swimming in the mangrove swamp areas.

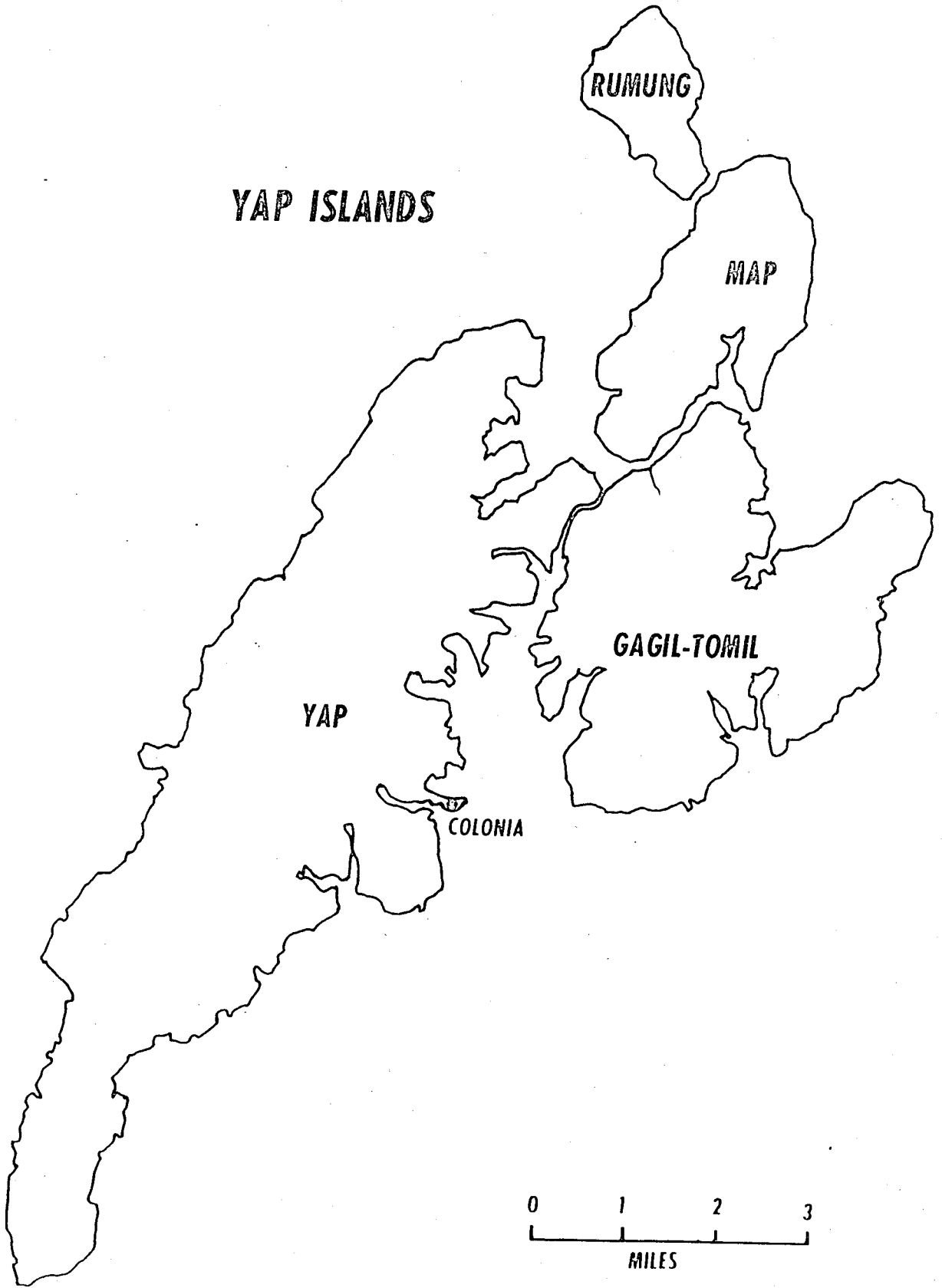


Illustration 14: A Palauan sea crocodile. Many of the saurian's teeth had been pulled for souvenirs before this picture was taken. The right arm and part of the rib cage of a Palauan fisherman were recovered from this specimen.

ANNEX C

THE YAP DISTRICT

**YAP ISLANDS**



ANNEX C  
THE YAP DISTRICT

General

The Yap district consists of the Yap Island complex and coral atolls extending as far east as Satawal, some 700 miles away. Yap Island is a complex of four separate islands located at 9° 30' N and 138° E. It is approximately 520 statute miles south-west of Guam, 4,350 miles from Hawaii, 1,850 miles from Tokyo, and 700 miles from the Philippines. Population of the district is 6,606; of Yap Island complex, 4,100. The islands of the Yap complex are Yap, Map, Gagil-Tomil, and Rumung. These islands form a compact group separated by narrow channels or canals which are often overgrown by mangrove. Roads connect Yap and Gagil-Tomil; other islands can only be reached by boat. Yap complex has 46 square miles of land and extends 15 miles north-south and approximately 6 miles east-west.

District headquarters is in the town of Colonia, also known as Yaptown, at the head of Tomil Harbor. (See Illustrations 1 and 2). There is no other town in the islands as the Yapese live in small groupings throughout the area.



Illustration 1: Town of Colonia on Yap located on western side of Tomil Harbor. View is looking north-west.



Illustration 2: Tomil Harbor from the town of Colonia.

The southernmost of the four main Yap islands contains the airfield, a new automated (but so far inoperative) U. S. weather station, the high school and the teachers' housing. The town of Colonia is located on the northeast portion. The island of Gagil-Tomil is the northeastern island of the complex. It contains the U. S. Coast Guard loran station with its 1,000' transmitting antenna which serves as an excellent point of reference from all of the northern Yap complex. Map and Rumung were at one time connected to the other two main islands by causeways constructed during the Japanese era. These have disintegrated and access to these two islands is only by boat. At some points the channel between Map and Gagil-Tomil is extremely narrow and nearly overgrown by mangrove. These islands are surrounded by a barrier reef and shallow coral shelving making access to the islands difficult except at high tide. The north shore is characterized by its beautiful sandy beaches. (See Illustration 3)



Illustration 3: North shore beach on Map island.

#### Transportation

Aerial: The airfield, located in the southern part of Yap island is a former Japanese airstrip built during World War II and improved by the TIPI. Many wrecked Zeros are still in evidence, some still with the "Rising Sun" insignia visible on their wing-tips. The bituminous surfaced runway of 4900' in length is in good condition and is used for commercial DC-4 service. (See Illustration 4) Aviation fuel is available at the parking apron.



Illustration 4: Yap airfield looking to the west.

Road: There is essentially only one vehicular road on the Yap island complex. This road goes from Gilliman beach at the south tip, past the airfield and high school to Colonia, then crosses the canal on a concrete bridge to Gagil-Tomil where it passes the Coast Guard station and splits with one section going to Gagil and the other to Tomil municipalities. The road is dirt but maintained in a condition suitable for jeep, pick-up truck or motor-bike traffic.

Water: The Yap Islander is an approximately 300-ton motor vessel, like the Palau Islander, Truk Islander and the Kaselehlia, which services the island with cargo service from Guam and Saipan. In addition to the Yap Islander, the Palau Islander makes regular stops at Yap enroute to and from the Palaus. The only port at Yap is Colonia in Tomil Harbor. The natural harbor is irregular in shape and has a narrow and torturous entrance (witnessed by the LST that has marked the harbor entrance since its grounding on the reef over 20 years ago) whose width is restricted by reefs to less than  $\frac{1}{4}$  mile. There are no standard freeswinging anchorage within the harbor. The main wharf consists of a quay having a berthing length of 250 feet and berthing depth of 14 feet. POL tanks at the harbor store diesel fuel.

Utilities: Streams and rain catchments are the chief sources of water supply in the Yap group. The only water system is at Colonia. The system supplies water for U. S. Government personnel, for the 24-bed hospital and for two schools. Most of the water is obtained from a reservoir at Gitman about  $1\frac{1}{4}$  mile southwest of Colonia. The reservoir is formed behind an earth-fill dam across a small stream. The water is pumped by gasoline-driven engine pumps through a 4-inch pipeline to three 42,000 gallon storage tanks in Colonia. A large pond near the airfield serves as an emergency water supply for Colonia during droughts. Electric power to Colonia is provided by two Fairbanks Morse and one Caterpillar generators having a total capacity of 800 KW. One of the Fairbanks Morse units (250 KW) will soon be replaced by a new 350 KW Caterpillar generator.

#### Tourist Observations.

Hotels: Yap has only the Trust Territory hotel, the Rai-view Inn. This is a ten double-room hotel which serves meals at the standard Trust Territory rate of \$9.00 per day American plan. The hotel is concrete block construction and served as typhoon shelter for many of the TIPI employees and guests during Typhoon Emma in November 1967.

Radio: Radio station WSZA broadcasts in English and Yapese.

Fauna: Yap has a large green lizard called a "galuf" and giant coconut crabs. The lagoon has manta rays, moray eels and barracuda.

Natives: The Yapese are the most primitive peoples in Micronesia. They cling to their old ways and do not adopt new ways unless it pleases them to do so. The native dress is worn almost exclusively; for men, this is a "thu" or piece of red or blue cloth about 5 feet long and 10 inches wide wrapped around the waist as a loin cloth and for women, a heavy grass skirt. Native TIPI employees are to be seen at work in the district headquarters in thu's--the female employees wear western clothes at work but the bare-breasted native fashion is adopted except when in contact with Westerners in the town of Colonia proper. Even in town, approximately 20% of the younger women, 80% of the old women, and 100% of the men wear native costumes. Betel nut chewing is widespread; a betel nut is split, placed on a piper mathysticum leaf and sprinkled with a lime ash from burned coral, then chewed. The mixture turns the saliva a brilliant red (which is quite striking in the smile of a nearly black native) and coats the tooth enamel with a purple or blackish color. The juice acts as a psycho-chemical and induces a feeling of detachment and euphoria. The Yapese male is never without his betel nut makings which he carries in a thatched bag as his thu has no pockets.

Yap is famous for its stone money. (See Illustrations 5 and 6)



Illustration 5: Yap stone money wheel on Map Island.



Illustration 6: A Yap village's "money bank" is located alongside the village main street.

These are "wheels" of stone quarried on the rock islands south of Babelthiap in the Palaus and ferried, first by canoe and later by "His Majesty O'Keefe's" square rigged sailing ships to Yap. The value is dependent on the difficulty in getting the money, so size and weight predominate. Money wheels range up to 10-12 feet in diameter and a foot thick weighing several tons. Broken money, of little value to the Yapese, is being made into jewelry by convalescent patients at the Yap Hospital in the beginning of a tourist industry.

Tabus are strong on Yap. One must not whistle nor touch a Yapese unexpectedly. Tossing the head of a youngster is quite an insult as is stepping over a person or his belongings. No women are allowed in the abais nor are men allowed into the women's area reserved for childbirth. Burping and hiccoughs are as acceptable as coughing and are frequently the method of getting a person's attention.

The Yapese live almost exclusively in native huts which have changed little over the centuries. (See Illustration 7)

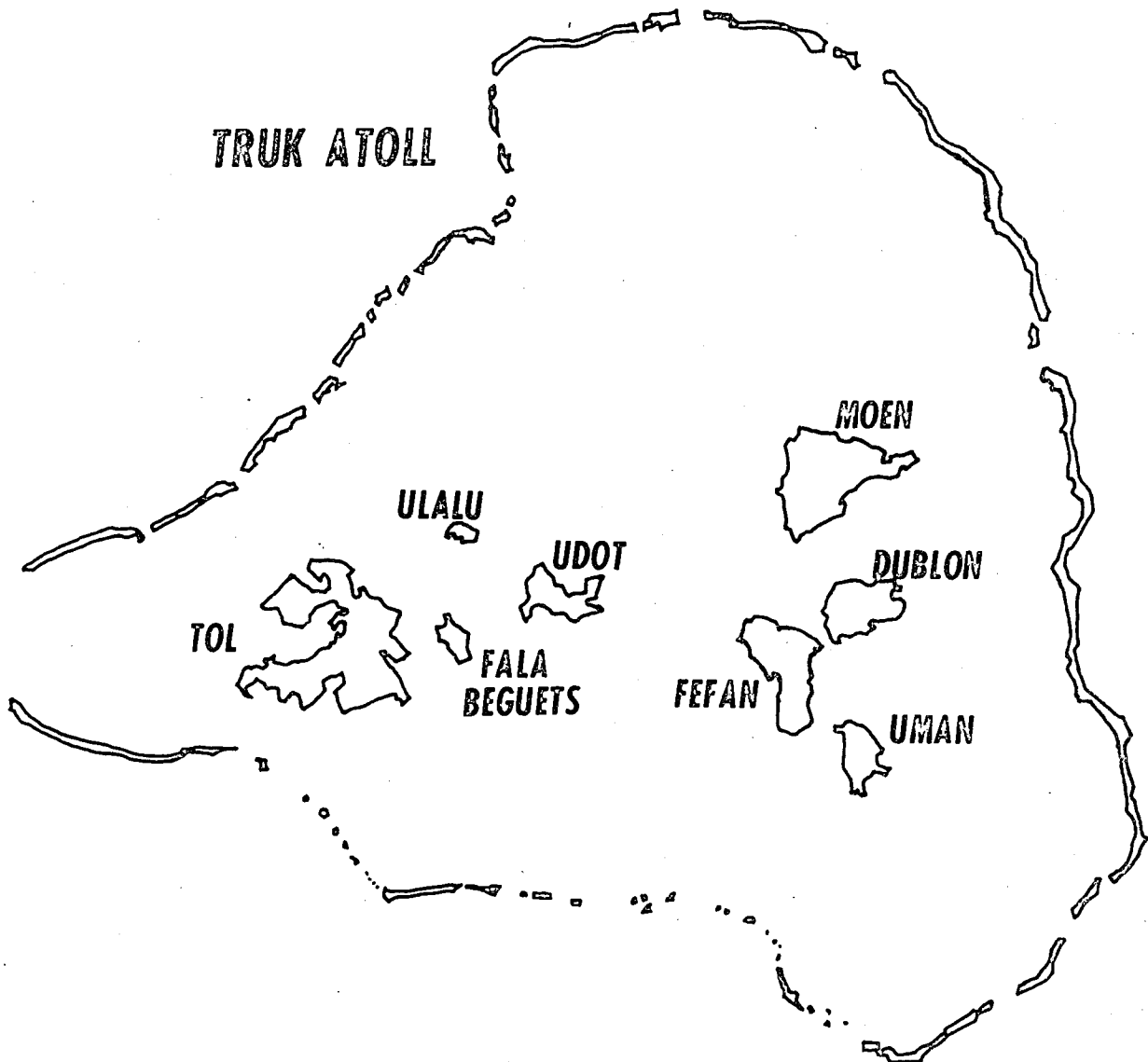


Illustration 7: A Yapese house in Colonia.

They seem an apathetic people with a high degree of acceptance for the misery of life. Yap appears more of a window into the past than a progressive community moving forward into the future.

ANNEX D

THE TRUK DISTRICT



0 5  
MILES

## ANNEX D

### TRUK DISTRICT

#### General

Truk atoll, located between  $7^{\circ}08'$  and  $7^{\circ}41'$  N latitude and  $151^{\circ}26'$  and  $152^{\circ}02'$  E longitude, is one of the largest protected harbors in the world. It is roughly circular in shape with a diameter of over thirty miles and contains 823 square miles of water and 38 square miles of land. The Truk District includes some 26,602 inhabitants of which 18,378 live in Truk Atoll itself. The reef is breached by seven principal ship channels. Truk is 600 statute miles from Guan, 3,000 miles from Hawaii, and 1,800 miles from the Philippines.

Within the atoll are two main groups of high, volcanic islands. In the west are Tol, Udot, Ulalu and Fala-Beguets (see Illustration 1); in the east are the district headquarters island of Moen, and Dublon, Uman and Fefan as well as numerous smaller islets (see Illustrations 2 and 3)



Illustration 1: Tol complex in the western end of Truk lagoon. Note the coral head in the foreground, typical of the small, uninhabited islets within the lagoon.

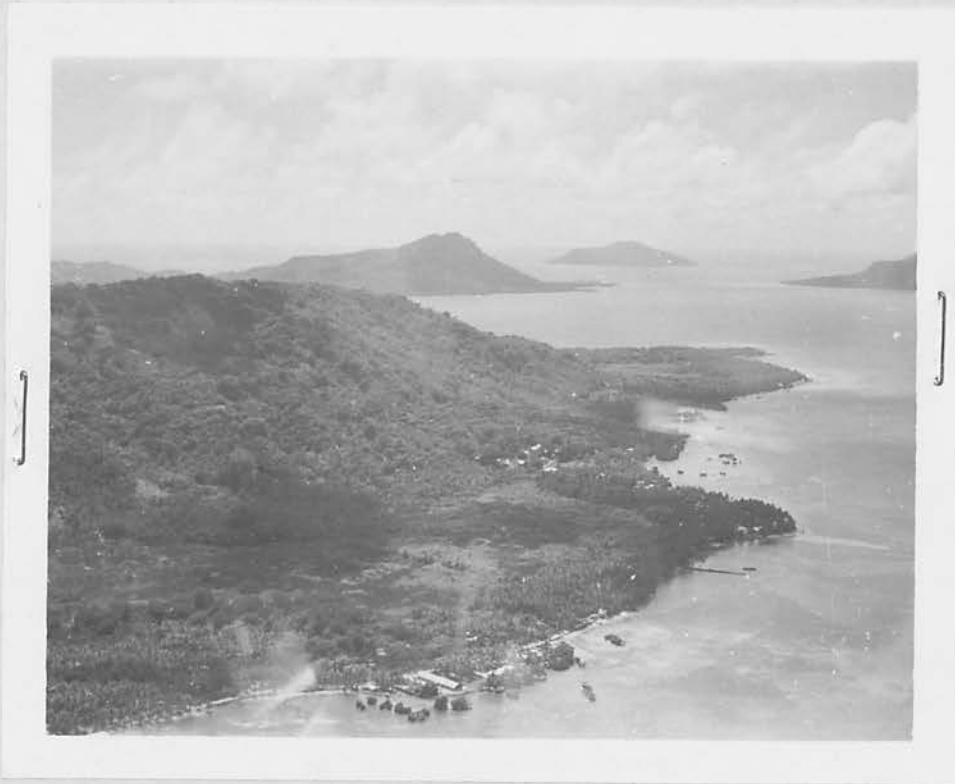


Illustration 2: Moen in foreground, Dublon and Uman in background. View is looking south-east over the west coast of Moen.

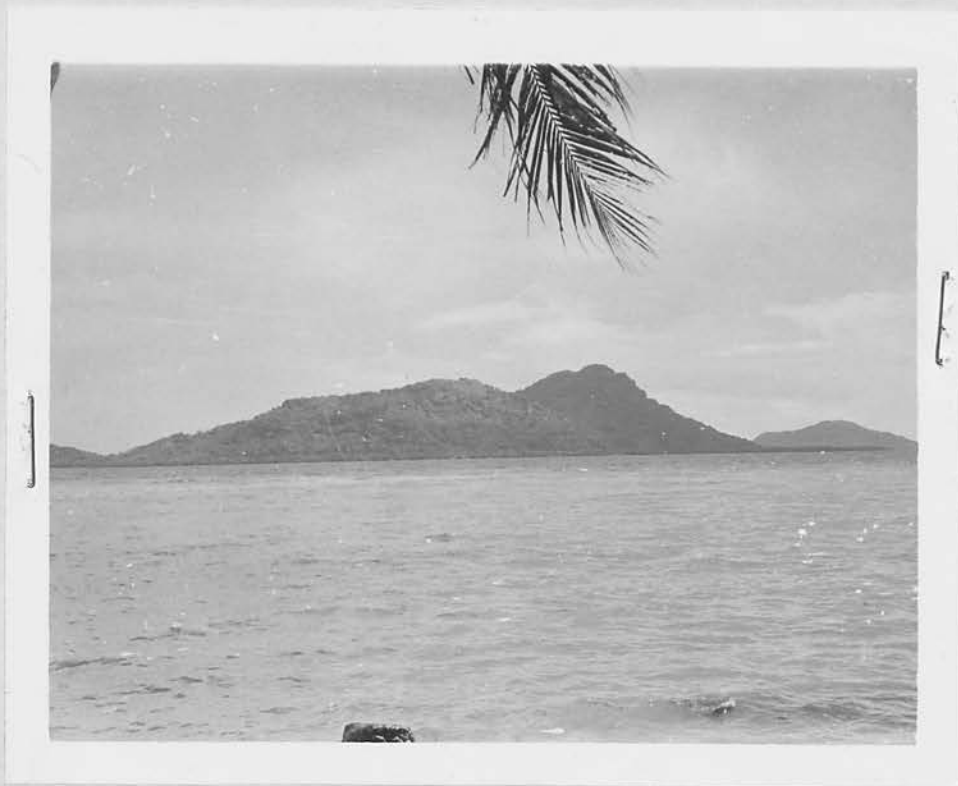


Illustration 3: Dublon Island seen from the south shore of Moen.

The majority of the native population live on Moen, Dublon, Fefan, Uman, Udot, and Tol. Tol is the largest of the islands (10 square miles) and has the highest elevation, Mt. Tumital, with a peak at 1,400 feet above sea level. Land reclaimed by the Japanese forms areas of coastal lowland on the main islands.

Moen is the largest island (7 square miles) of the eastern group and is the administrative center of the district. It is a rugged island with very little level land except on the northwest and southwest. Caves in the hills contain coastal defense guns brought by the Japanese from the captured defenses of Singapore.

Dublon, Fefan and Uman are the remaining three large islands of the eastern group. Dublon was a major Japanese military island during World War II when the Japanese population alone of Truk was over 35,000. Extensive facilities constructed by the Japanese on Dublon have either been destroyed or are in a deteriorating condition.

Climate: The tropical ocean climate produces a high and uniform temperature with a mean of 80° and an average range of 10°. Humidity averages 83% and the annual rainfall, largely during May-August, is 140 inches.

Transportation:

Aerial: Moen has an airfield at its northwest tip with a 5,000-foot coral surfaced runway. This is used in commercial DC-4 service and is the base for the amphibious SA-16 used for commercial service to Ponape and emergency service to other islands. There is an abandoned Japanese airstrip on the southwest tip that may be required in order to get jet service into Truk; much of the runway is still present under the jungle growth but the Truk High School is at one end and might present a safety hazard.

Road: Numerous roads were built by the Japanese throughout the larger volcanic islands. Most were between 8 to 15 feet wide and thinly surfaced with crushed rock. Nearly all roads on upland terrain are now overgrown with vegetation. Most lowland roads outside of the district center are now used as coastal trails. Roads within the district center are typical of the TTPI. They are dirt and have minimal maintenance. As a matter of interest, the road which passes the District Headquarters, the hotel and the housing area has been made one way during peak traffic hours!

Water: The Truk lagoon provides an excellent harbor for deep-draft vessels including the largest afloat. Port facilities are on the islands of Moen, Dublon and Fefan, all located in the northeast part of the lagoon. The northeast passage is the nearest to the ports. The main wharf for Truk is located on the north side of Moen Island. It has a concrete pier 300 feet in length and berthing depth of about 25 feet. Several thousand feet of wharfage which were constructed by the Japanese on Dublon are deteriorating and may no longer be usable, except for a few that provide berths for small craft. The wharf on Fefan is located on the east side of the island. Anchorage in the lagoon for numerous vessels of any size is considered the best in the Caroline Islands. The lagoon with bottom consisting of sand and coral is generally calm and affords good protection. There are still some 68 unsalvaged scuttled Japanese ships on the bottom of the lagoon. Normal inter-island transportation is by shallow draft outboard motorboat.

Utilities: Like the rest of the District Administrative Centers in the TTPI, a water system is available on Moen Island serving the District headquarters, U. S. housing area, the 75-bed hospital, public school, hotel, dock area and Truk Trading Company. The water supply for this system comes mainly from surface water and is augmented by pumpage from two drilled wells. The capacity of storage reservoirs in the system is about 970,000 gallons. The water supply is adequate during the wet seasons but rationing of water frequently is necessary during the dry season (February to March) when stream flow is at a minimum. Outside the District Center, the natives obtain and store most of their fresh-water supply by diverting the runoff from roofs of dwellings into simple catchments, usually consisting of discarded oil drums or concrete cisterns. During the dry season they obtain water from shallow dug wells, seeps and small springs. Electric power is provided to the District Center by two Caterpillar and two Worthington generators having a total capacity of 1450 KW. The two Worthington units are in very poor condition and plans are to replace them with one 500 KW Caterpillar unit.

#### Tourist Observations:

Hotels: The TTPI Truk Hotel is a ten double-room hotel which serves meals at \$9.00 American plan. Mildew is a serious problem here and everything must be kept in a hot closet to avoid it.

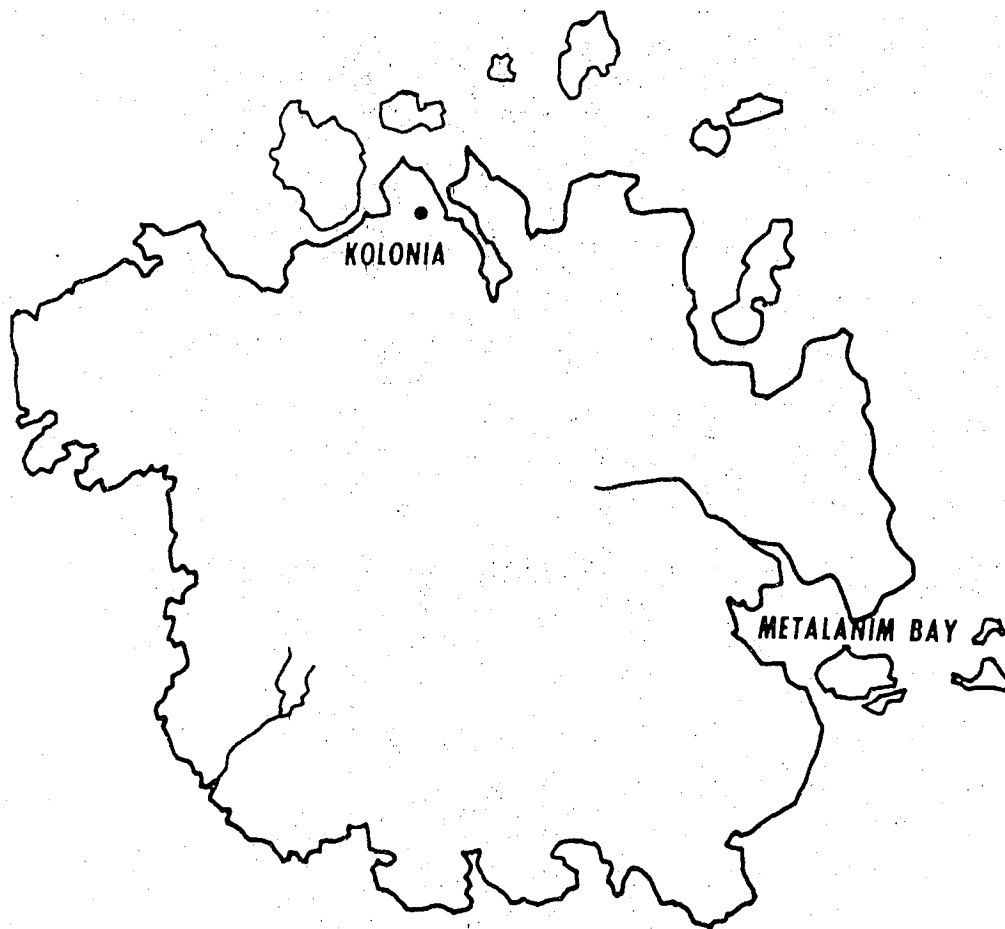
Radio: Radio station WSZC broadcasts at 1500 kilohertz.

Schools: Truk is the site of three high schools. The Truk High School is public, Xavier is operated by the Catholic mission, and Mizpah is run by the Protestant mission. All three schools are academically oriented.

ANNEX E

THE PONAPE DISTRICT

# PONAPE ISLAND



MILES

ANNEX E

THE PONAPE DISTRICT

General

The Ponape District is the easternmost in the Caroline Islands. It consists of two high islands, Ponape and Kusaie, and eight coral atolls. Two of the atolls, Nukuoro and Kapingamarangi, are incursions from Polynesia and are not strictly a part of Micronesia. The district contains 176 square miles of land area and 18,958 inhabitants.

Ponape Island

Ponape Island is the site of the District Center and is the location of the major town in the district, Kolonia. (See Illustrations 1 and 2) Kolonia is located on the north shore of Ponape at  $6.5^{\circ}$  N and  $158^{\circ}$  E.

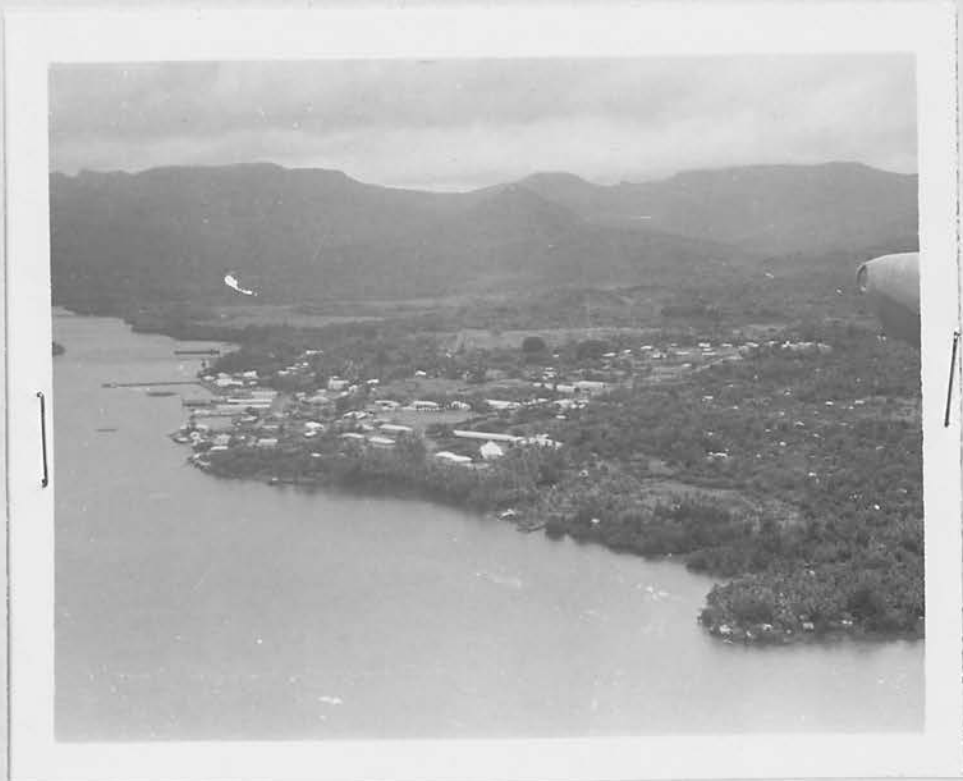


Illustration 1: Kolonia, Ponape looking south-east.



Illustration 2: Main Street, Kolonia, Ponape.

The island of Ponape is nearly circular, measuring 12 x 14 miles, and has a total land area of 129 square miles. The population of Ponape is 12,843. It is a marvelously fertile island with better than 200 inches of rain per year in the low lands and upwards of 300 inches on the mountaintops. There are many fresh-water streams, some of sizeable dimensions and suitable for hydro-electric power use. The Japanese hydro-electric plant has fallen into disrepair and does not appear worthy of salvage. The interior of Ponape is dense jungle and rain forest, extremely mountainous (See Illustration 3) with many large waterfalls, and essentially uninhabitable. Level land occurs in the north around Kolonia, in the southwest behind the village of Kitti, and in the east near Metalanim Bay. (See Illustration 4) Ponape is surrounded by a fringing reef. It is in the area in which typhoons are generated so is not usually subjected to the full force of these seasonal storms. Ponape is 3,000 statute miles from Hawaii, 900 miles southeast of Guam, and 2,000 miles from the Philippines.



Illustration 3: Rocky peaks near Chokach, northwest Ponape.



Illustration 4: Chokach Rock, the "Diamond Head" of Ponape.

## Kusaie

The island of Kusaie, located at 5° N and 163° E, is a high island approximately 8 x 6 miles in size and with a population of 3,351. The main village is on a separate small island, Lele, off the east coast which makes the main harbor's "breakwater." Kusaie is a beautiful forest clad island with a mountainous interior. The highest peak is Mt Crozer at 2,061 feet.

## Transportation

Road: All roads on Ponape are dirt and suitable for jeep or pickup truck. Roads leading out of Ponape can be traversed to Chokach, to the old Japanese airstrip and the deactivated Page Communication Station to the southwest, to the Pacific Islands Central School about 1 mile south of the city, and to the vicinity of the Japanese hydro-electric plant about three miles to the southeast. Other roads exist from the Japanese era but are either overgrown or do not have bridges over the many streams on the island.

Water: The harbor at Kolonia is studded with coral heads and does not provide a deep water facility at the town. Ships of the size of the Pacific Islander (Navy AK type) must be lightered from an anchorage near Langaur Island in the outer harbor; ships of the Kaselehlia class (130 feet, 300 tons) (See Illustrations 5 and 6) can dock on a pier halfway up the harbor toward Kolonia (See Illustration 7) but still a long drive (5 or 6 miles) on very poor roads; smaller ships (approximately 75 feet and below) can come in to piers at Kolonia at high tide. Other harbors which could be made usable by dredging or blasting coral heads are found on the east coast at Metalanim Bay and on the southwest at Kitti. The harbor at Chokach on the northwest is exposed to ocean swells during most of the year.



Illustration 5: MV Kaselehlia, Ponape logistic supply ship, tied up at pier in outer harbor, Kolonia, Ponape.



Illustration 6: Mobil tanker tied up at outer pier, Kolonia, Ponape.



Illustration 7: Pier for medium-sized shipping (approx. 300 tons) at left of picture, Kolonia Town at far right edge.

Aerial: Ponape does not have an airstrip although one is under construction to the north of Kolonia. Current service is by SA-16 landing in the lagoon and arriving at the main Japanese seaplane ramp on Langaur Island. (See Illustration 8) All visitors and cargo must then be ferried by small boat to the town of Kolonia.



Illustration 8: Seaplane ramp on Langaur Island, Ponape.

Plans for an airfield on the east coast were abandoned when FAA objected to a mountain range in the traffic pattern. The current airstrip construction, located on Takatik Island adjacent to Ponape town, is severely hampered by the small, ex-Mississippi River dredge that is in use. It is subject to frequent breakdown due to coral abrasion and appears inadequate for the job. When completed, the new runway will be 6,200 feet in length. A causeway will connect the new airstrip to Kolonia.

#### Utilities

The water system for the District Center at Ponape consists of 240,000 linear feet of concrete flumes connecting the water catchment area at the abandoned Japanese airstrip to two 150,000 gallon storage tanks and the water treatment plant located a few miles southwest of town. The system serves all government buildings, the hospital, public school and some private homes. Water is more than ample on the island throughout the year. Like the other District Administrative Centers, the TTPI sewer system serves all government facilities, the hotel, public high school and government homes. Sewage is emptied into the harbor. Electric power is provided to the District Center by three Caterpillar generators having a total capacity of 1500 KW.

#### Tourist Observations

Hotel: The Kaselehlia Inn is a typical TTPI hotel with 10 double rooms and meal service. (See Illustration 9) Additional quarters are furnished in the TTPI quonsets used for BOQ's or as temporary quarters for staff members.



Illustration 9: The Kaselehlia Inn, Ponape.

Radio: Radio Ponape broadcasts in Ponapese and English on 1450 KH. It features a particularly grating form of Ponapean music, based on the rock-pounding rhythm used to make fermented drink from taro, which is greatly appreciated by the Ponapeans but abhorred by all others.

Nanmadol: Ponape possesses the outstanding tourist attraction in the TTPI in Nanmadol. This is a group of over one hundred semi-artificial islands, the "Venice of the Pacific", built of columnar basalt. These columnar basalt natural crystal logs are 1-2 feet in diameter and 10-15 feet long and must weigh many tons. They are used as logs in building log cabins up to 40 feet in height. (See Illustrations 10, 11 and 12)



Illustration 10: Nan Dowas ruin at Nanmadol.



Illustration 11: Nanmadol construction using columnar basalt natural crystals as "stone logs" 1-2' thick and 10-15' long.



Illustration 12: Corner construction at Nanmadol using basalt stone "logs."

The stones were ferried to the site from as far away as Chokach Rock, some forty miles, by unknown means -- probably rafts or outrigger canoes. Nanmadol was the home of the Saudeleurs, the legendary chiefs or rulers of Ponape. The Saudeleurs were negroid in type, have been named in chronological legends, and disappeared into the unknown before discovery of these islands by Westerners. The Germans conducted extensive investigations into Nanmadol in the early 1900's but stopped when the German governor of Ponape died after violating the traditional curse on trespassers. The Smithsonian Institute visited Nanmadol in 1963 but no report of their investigation has been published.

Sand Island: In most areas of Ponape mangrove swamps extend into the ocean and all swimming, shelling or snorkeling must be done from a boat. There are two sand islands off the eastern coast near Nanmadol and Metalanim Bay with a sandy beach. These are much in demand for picnics but are a full hour trip by fast motorboat from Kolonia.

Schools: Two schools on Ponape are worthy of a tourist visit. These are the Pacific Islands Central School (PICS) and the Ponape Agriculture & Trade School (PATS).

PICS was originally the only high school in the Trust Territories and drew students from all Micronesia. About five years ago, when other districts started high schools of their own, the school became the Ponape District Central High School but retains the acronym PICS. It has an excellent library of Micronesia, largely donated by the current Distad, Robert Halverson, which contains volumes as old as a report of a shipwreck and visit to the Palaus published in the late 1700's. All high schools are, of necessity, boarding schools for all students from the outer islands or other than the immediate vicinity of the school itself.

PATS is run by Father Costigan, an 18-year veteran of the TTPI, on the south side of Metalanim Bay. It takes students from all of Micronesia and teaches the practical arts of agriculture and engineering. Students participate in the Metalanim Housing Cooperative; a corporation founded by Father Costigan to give students experience in building concrete block houses and which is now a contractor to the TTPI for much of the building on Ponape. Many students have never seen machinery, except for an outboard motor, when they arrive and we met students on our visit who had never seen an airplane as the langaur seaplane ramp is on the other side of the island. Father Costigan is Irish and is said to have chosen the school's name in order to be able to call it "PATS!!"

Micronesian Spice Company: Ponape has started an industry for export and for tourist sales to capitalize on the excellent black and white pepper grown on the island. With the cooperation of the Agricultural Center, a technique for growing pepper plants vertically on a tree fern base has been developed (see Illustration 13) and a mail order business is in being. The Agricultural Center also is working on cocoa growing (see Illustration 14), breadfruit varieties, cucumbers, papayas (see Illustration 15), bananas and a South Pacific pineapple.



Illustration 13: Ponapean pepper growing at Agricultural Station.



Illustration 14: Cocoa growing at Ponape Agricultural Station.

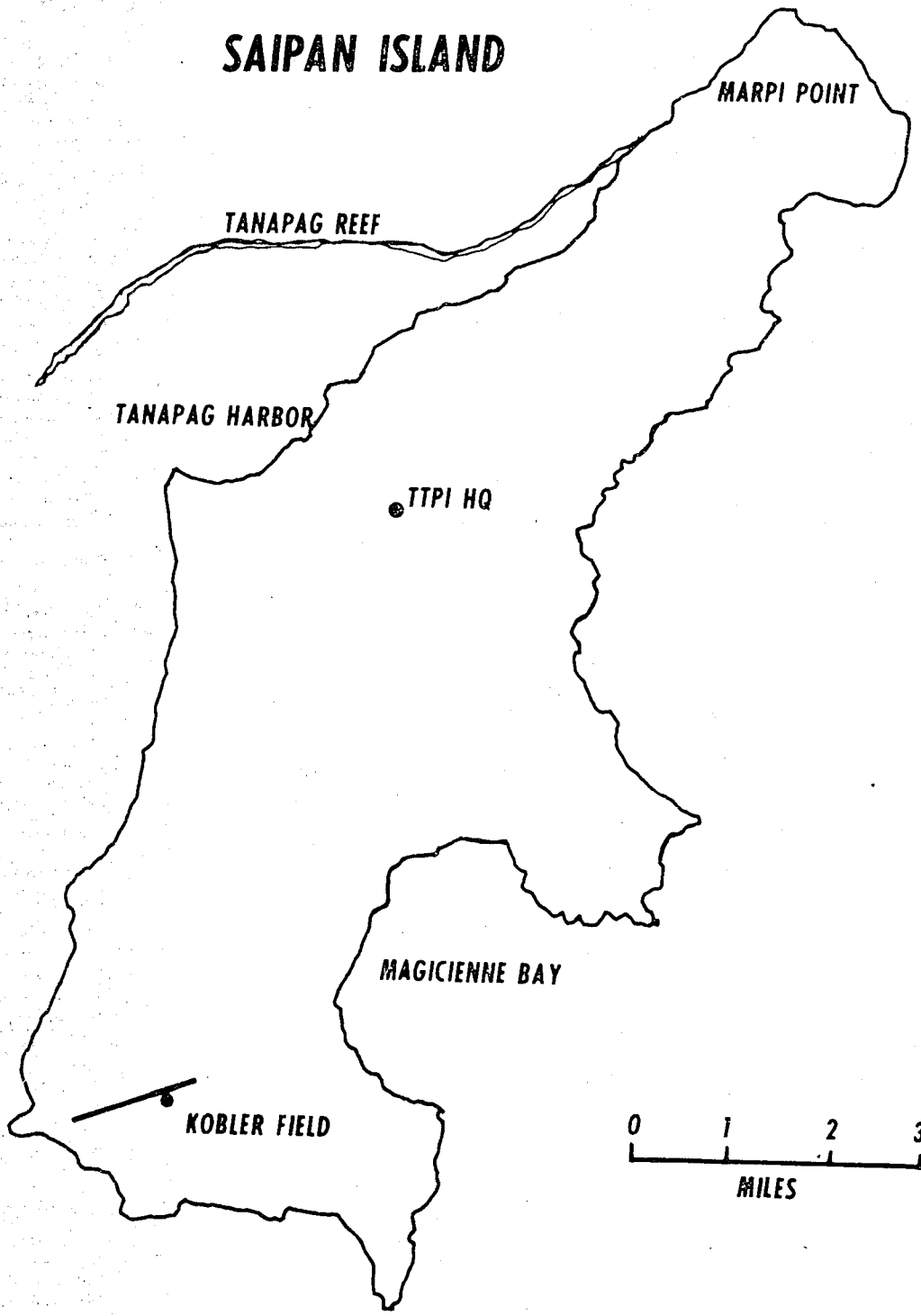


Illustration 15: Papayas, grown at Ponape Agricultural Station, following typhoon winds in November 1967.

ANNEX F

THE MARIANAS DISTRICT

# SAIPAN ISLAND



ANNEX F

THE MARIANA DISTRICT

General

The Mariana District of the Trust Territories consists of all TTPI islands north of 14° N latitude and west of 150° E longitude. The district includes all the Marianas except for Guam which is a territory of the U. S. There are 13 single islands and one group (Maug) of three small islands. Total land area is 184 square miles with two-thirds of this concentrated in the three major islands of Saipan (47 square miles), Tinian (39 square miles), and Rota (32 square miles). The only inhabited islands are Agrihan, Pagan, Alamagan, Sarigan, Anatahan, Saipan, Tinian, and Rota. Total population of the district is 10,743.

Saipan is approximately 140 statute miles north of Guam, 3,700 miles from Hawaii, and 1,450 miles from Tokyo.

Listing the islands of the district from south to north results in the following list:

<u>NAME</u>	<u>EXTENT (MILES)</u>	<u>MAXIMUM ALTITUDE (')</u>
Rota /	12 x 5	1,612
Agiguan	3 x 2	584
Tinian /	12 x 6	1,564
Saipan /	14 x 6	1,554
Farallon de Medinilla	2 long	266
Anatahan	5 x 1	2,585
Sariguan	1 x 1	1,800
Zealandia Bank	small	-----
Guguan	2 x 1	988
Alamagan	2 x 1	2,440
Pagan	8 x 3	1,883
Agrihan	6 x 3	3,166
Asuncion	1 x 1	2,923
Maug	1 x 1	748
Farallon de Pajaros	2 x 2	1,047

Saipan: Saipan is the headquarters island for the Trust Territories of the Pacific Islands and is the location of the High Commissioner's Office and of the Congress of Micronesia. The TTPI occupies Navy-style quarters constructed for the CIA on what is termed Capitol Hill. A U. S. Coast Guard Loran Station is also on the island.

A mountain range traverses the center of the island in a north-south direction. The east side is steep and rocky but the west and south sides slope gently to level cultivated land. Mt. Tapotchau, with an elevation of 1,554' is in the exact center of the island. To the east is Hagman Point, a level plateau on the north shore of Magicienne Bay. Hagman Point has an unused airstrip and several attractive beaches. Magicienne Bay is a potentially good harbor except that it is on the windward side and exposed to ocean swells. The south side of the island has two good airfields; Kobler Field is currently used for TTPI commercial flights, Isley Field could be easily rehabilitated as the runway is in good condition. The southwest coast is the site of the ancient city of Garapan which was destroyed during World War II. Chalan Kanoa is the new Chamorran town which replaced Garapan as the major city on the island. Total population of Saipan is 8,664. Tanapag Harbor is on the west central portion of the island. The mountainous ridge up the spine of the island terminates at the north end, called "Suicide Cliff" (see Illustration 1).



Illustration 1: Suicide Cliff, north Saipan.

The cliff was named for the many Japanese soldiers and dependents who committed suicide by leaping off its heights when they were driven north by the U. S. advances. Below Suicide Cliff is Marpi Point (see Illustration 2), a flat plateau on the north end of Saipan which was the site of a Japanese fighter strip and of much of the ammunition logistic build-up for the invasion of Japan. The remnants of this ammunition is still thick in the jungle so that the area is still off-limits to all personnel except for the small team performing EOD work for the TIPI.



Illustration 2: Marpi Point viewed from Suicide Cliff.

Tinian: Tinian lies some three miles southwest of Saipan and was the site of many U. S. and Japanese airfields during World War II. Its major claim to fame is that it was the assembly point and point of departure for the atomic bombs dropped on Japan. Two major World War II airfields remain on the island. The largest, North Field, has four 8,500 foot airstrips. This airfield, including the taxiways and service areas, was completely paved with bituminous concrete, has separate hardstands and was designed and constructed to accommodate B-29 aircraft. The other, West Field, has two 8,500 feet and one 6,000 feet airstrips. This field also included taxiways and service areas and was designed similar to North Field. The island appears quite flat as intricate systems of plateaus and terraces make up almost its entire surface. Tinian's population of 596 is largely concerned with agriculture and cattle raising (see Illustration 3).



Illustration 3: Aerial view of Tinian Island.

Rota: Rota is the southernmost of the Mariana District islands and is largely agricultural. Until 3 or 4 years ago, Rota was effectively cut off from the remainder of the Marianas by legal restrictions on travel and the lack of plane service more frequently than once a month. Currently, no travel restrictions are in effect and plane service is at a minimum of three times a week. The island is used as a truck farm for Guam and Saipan and is developing a cattle business. There is no harbor worth noting and most of the 1,142 inhabitants are agricultural workers. Typhoons hit Rota during November 1967 on two occasions and severely damaged both the physical facilities and the crops on the island.

Anatahan: Anatahan contains about 12 square miles of land and a population of 32. Oblong, it has an extinct volcanic crater in the center with two peaks at 2,343 and 2,585 feet in height.

Pagan: Pagan is the largest of the purely volcanic islands in the Marianas. Its last known eruption was 1922 although steam emission occurs periodically on the southwest side. Its area is approximately 18 square miles and its population is 96.

Agrihan: Agrihan is a volcanic island with 18 square miles of land area and a population of 131.

#### Transportation:

Aerial: Commercial air traffic uses Kobler Field on the south end of Saipan. This is a 7,000 ft. bituminous surfaced runway. Adjacent to Kobler Field is Isley Field which is under consideration for use for commercial jet service; its two bituminous surfaced, 8,500 ft. runways are in good condition. Rota has a coral paved airstrip 5,100 ft. in length.

Road: Saipan has the only paved roads in the Trust Territories and resembles a small American town or military base. The road north to Marpi Point has been largely overgrown by tangan-tangan or jungle grass planted by aerial seeding following World War II. In Japanese times, Saipan had been a major sugar cane area, but was denuded by World War II activity. Roads connecting the district headquarters, government housing, the harbor area and main town of Chalon Kanoa are excellent. Many open storage areas are available near the harbor.

Water: Tanapag harbor on Saipan consists of an outer and inner area located mid-way on the western side of the island. The outer harbor, an extensive open roadstead covering an area of several square miles, has general depths of 175 to 30 feet. Puetton Tanapag, the inner harbor, is a reef-enclosed harbor entered at the northeastern end of the outer harbor. The wharf consists of an L-head pier having a total berthing length

of 1,340 feet. The main berth is on the north end having a length of 530 feet and alongside depth of 20 feet. Inter-island vessels can berth on the remaining sides of the pier each having berthing depths of about 12 feet. (See Illustration 4)



Illustration 4: Ship entering pierage area, Saipan Harbor.

Tinian had a deep water harbor during World War II which could accommodate cruisers and Essex class carriers. The harbor area is protected from the sea by a breakwater. The east end of the breakwater is in ruins and only small vessels enter the harbor now. There is about 4,300 feet of berthing space. The Main Quay with a length of about 2,000 feet and depths of 22 to 29 feet alongside is considered the only serviceable berthing facility. Numerous anchorages are found adjacent to the harbor having good holding ground of coral and sand in depths of 60 to 120 feet.

Utilities: Treated water supply and excreta disposal systems are mainly limited to housing areas for Government employees, hospitals and a few Government and mission schools. Approximately 8,300 and 1,100 people are serviced by the water system on Saipan and Rota respectively. Excreta disposal system serves about 400 on Saipan. The geology and topography of Saipan are such that only a small part of the rain falling on the island can be recovered or accumulated in usable form. The flow from high-level springs is the best source of good quality surface water but this flow fluctuates greatly with the seasons, ranging from about a low of 150,000 GPD to a high of about 1,500,000 GPD. The water resources on Tinian are extensive and capable of fairly easy exploitation. Fresh water in a basal ground water system occurs according to the Ghyben-Herzberg principle. Drilled wells have been successful. The past peak output of about 2.3 MGD probably could be exceeded. Electric power is provided to the Major Mariana Islands as follows:

Saipan....Four Worthington Diesel and one GMC 567 portable generators -- total capacity of 3,330 KW  
Tinian....Three Waukeshaw generators -- total capacity of 300 KW  
Rota.....Three Caterpillar generators -- total capacity 225 KW

Climate: Saipan has a mean temperature of 80° with a recorded range from 69° to 90° F. The annual rainfall is 82 inches.

Tourist Observations: Saipan is far closer to a U. S. city than any other within the Trust Territories. Paved roads, movies, restaurants and an 18-hole golf course provide for tourist recreation. A new hotel, the Royal Taga, is due to open in December 1967. This will be the first primarily tourist hotel in the Trust Territories. Currently, several wives of TTPI staff members are developing "tour guide" services and designing tours of the island for visitors. Servicemen from Anderson AFB on Guam occasionally are given 2 or 3-day trips to Saipan for "R&R." The Trust Territory official visitor can be accommodated in BOQ's or in one of the guest houses maintained by the headquarters.

