GUAM'S PEOPLE:

"A Continuing Heritage"

A Statistical Profile of the Territory of Guam

1920 - 1980

Prepared by Selected Members of the
Interagency Committee on Population
Government of Guam
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FOREWORD

The monograph on the 1980 Census of Guam is a result of many professional contributions, and is intended to help local planners prepare for the 1990 Census. This monograph attempts to interpret 1980 data directly and to consider the information for the planning process.

The Interagency Committee on Population (ICP) and others have prepared the monograph. Supplementary material has been added to aid research projects, grant applications, and other applications for both government and private sectors.

In summary, the report identifies what type of census information is available to aid in planning for what our population composition will be like by 1990 and into the future. The presentation of the individual chapters should be helpful to the users of such data.

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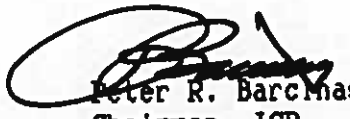
We wish to extend our sincere appreciation to all who participated in this project.

Peter R. Barcinas,
Michael J. Levin,
Cynthia L. Naval, Editors.

A MESSAGE FROM THE CHAIRMAN OF THE INTERAGENCY COMMITTEE ON POPULATION

The Population Monograph 1920-1980 is the first publication of the Interagency Committee on Population. It is a research document that describes characteristics of our population, and identifies trends and issues that will shape our island's future.

The Monograph is the result of contributions from many agencies and departments throughout the Government of Guam. I would like to commend the members whose time and efforts have gone into making this document the excellent research tool that it is, and I hope that more work of such high caliber will be forthcoming.



Peter R. Barcinas
Chairman, ICP

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CHAPTER 1
INTRODUCTION AND GEOGRAPHIC DISTRIBUTION

Guam, an unincorporated territory of the United States, is the largest, most populated, and Southern-most island in the Marianas archipelago. The island is 30 miles long and 8 miles wide, with a total land area of 209 square miles. The island was formed through an uplift of undersea volcanic activity and is surrounded by coral reefs near the shore. Guam is composed of two distinct geological areas of about equal size: the Northern part of the island is a high coralline limestone plateau rising up to 850 feet above sea level and contains the water lens which is the main source of fresh water on Guam; the Southern region is mountainous. Apra Harbor, one of the largest protected harbors in the Pacific, is located on the central, western side of the island.

Guam became a possession of the United States after the Spanish-American War in 1898, and for the next 40 years remained almost unaffected by the changes occurring in the outside world. Health measures instituted by the U.S. Naval government started a rapid population growth, and between 1898 and 1940 the island's population more than doubled, from 10,000 to more than 22,000. Because of the occupation of Guam by Japanese armed forces during World War II, after the war more attention was paid to the territory. In 1950, Guam became an unincorporated territory of the United States by the Organic Act. Chamorro residents became United States citizens and the Government of Guam was set up with a Legislative Branch elected by Guamanians and an Executive Branch appointed by the President of the United States and directly responsible to the Department of Interior. In 1970, Guam elected its own governor for the first time. Guam is divided into 19 election districts.

SPANISH PERIOD

Although Guam had been inhabited for more than 3,500 years, it was not officially "discovered" until Magellan came in 1521. Spanish missionaries and administrators came and went over the next three hundred years. Contact during the first two centuries was sporadic, although documented (see Underwood 1973 for recorded contacts). No complete census was taken during this period.

Following a long period of native unrest, Don Jose Quiroga arrived in 1680 on Guam and his men "attacked and destroyed native villages and founded 6 'church-villages' of Pago, Inapsan, Inarajan, Merizo, Umatac, and Agat, and forced the natives to move into one of these centers" (Underwood, 1973, cites Fritz 1904; Corte 1897). Also, Quiroga pursued the natives who fled to Rota after burning the church at Inarajan. Some 150 fugitives were returned to Guam. (Corte 1870, Ibanez 1886).

After 1694, when Quiroga became Governor, the inhabitants of all the Mariana Islands were moved to Guam or Saipan, except for a few natives who hid out on Rota to escape resettlement. Natives of Tinian Island were finally defeated on Agrigan and moved to Saipan in 1695. A final resettlement took place when Chamorros residing on Saipan were removed to Guam in 1698, leaving only Guam and Rota occupied at the beginning of the 18th century (Underwood, 1973:17, cites Safford, 1901, 1903; Corte, 1870, Fritz 1904).

> "On Guam, a native population in the throes of resettlement, having suffered a series of damaging typhoons in 1670 (Ibanez 1886), in 1671 (Corte 1870;

Thompson 1946, 1947; Reed 1952) and in 1693 (Thompson 1945; Reed 1952), and engaging in a series of rebellions, would expectably be peculiarly susceptible to disease, whether of introduced or native origins. That population decline began well before the date of the first Spanish census in 1710 seems evident, but the decrease had certainly not proceeded to the level of from 100 to 400 indicated by Dampier, after his visit in 1686, and recorded by Haswell (1917), Safford (1901), and Reed (1952)" (Underwood, 1973:18).

The data in Tables 1.1 and 1.2 show the change in composition of the population on Guam and Rota combined from 1710, the first Spanish census, through 1830. Rota could not be disaggregated from Guam in these tabulations; only a few hundred persons were living on Rota during this period. Immigrants, particularly Filipinos, continued to come to the Mariana Islands throughout the period, but since the censuses seem to classify persons in different ways, the population flows cannot be traced very well. The number of pure Chamorros decreased during the 1700s, and then started a very gradual increase during the early 1800s. While the Native population declined steadily, reaching its lowest point in 1786, the "mestizo" population (the progeny of matings between natives and Spanish, Filipino, and other foreigners) grew during the period.

Table 1.1 Ethnic Distribution: 1710 to 1830

Date	Total	Natives	Mixed	Spanish/ Mestizo	Filipinos	Offcls/ Troops	Others
1830	6,490	2,652	1,007	5	2,612	70	143
1829	6,480	2,697	1,006	5	2,557	79	136
1828	6,448	2,792	970	2	2,466	78	140
1825	5,901	2,683	3,218	0	0	0	0
1816	5,389	2,559	0	1,109	1,484	147	90
1802	4,149	2,151	0	676	1,156	139	27
1801	4,244	2,142	0	657	1,274	140	31
1800	4,060	2,108	0	542	1,234	139	37
1799	4,001	2,074	0	591	1,164	142	30
1795	3,500	1,894	0	537	898	147	24
1793	3,584	1,766	0	961	710	147	0
1710	3,614	3,143	0	471	0	0	0

Notes: Mestizos excluded from Spanish category 1828 to 1830; for 1828 to 1830 census reports, "other" includes English, French, Mulattos, Malayans, and Pacific Islanders.
Source: Karolle 1978:46-47 (Karolle cites Underwood 1976: 206, Carano 1964: 199, 323-324, Statistical Abstract: Guam 1975: 2.

The percent native also fluctuated quite a bit during the period, again, attributable to the classification systems used in the various censuses (Table 1.2). The proportion of Filipinos in the population increased between 1710 and 1801, then remained at about 30 percent for several years. These Filipinos were mainly workers brought from the Philippines to serve the Spanish.

Table 1.2 Percent Ethnic Distribution: 1710 to 1830

Date	Total	Natives	Mixed	Spanish/ Mestizo	Fili- pinos	Offcls/ Troops	Others
1830	100.0	40.9	15.5	.1	40.2	1.1	2.2
1829	100.0	41.6	15.5	.1	39.5	1.2	2.1
1828	100.0	43.3	15.0	.0	38.2	1.2	2.2
1825	100.0	45.5	54.5	0.0	0.0	0.0	0.0
1816	100.0	47.5	0.0	20.6	27.5	2.7	1.7
1802	100.0	51.8	0.0	16.3	27.9	3.4	.7
1801	100.0	50.5	0.0	15.5	30.0	3.3	.7
1800	100.0	51.9	0.0	13.3	30.4	3.4	.9
1799	100.0	51.8	0.0	14.8	29.1	3.5	.8
1797	100.0	37.2	0.0	20.4	0.0	4.8	37.6
1795	100.0	54.1	0.0	15.3	25.7	4.2	.7
1793	100.0	49.3	0.0	26.8	19.8	4.1	0.0
1710	100.0	87.0	0.0	13.0	0.0	0.0	0.0

Notes: See Notes to Table 1.1
Source: Karolle 1978:46-47 (Karolle cites Underwood 1976: 206, Carano 1964: 199, 323-324, Statistical Abstract: Guam 1975: 2.

Between 1800 and about 1856, the population nearly tripled, reaching more than 8,000 before a devastating smallpox epidemic in 1856 reduced the number by about half (Table 1.3). For the rest of the century the population gradually recovered, although a large part of this latter increase was due to migration of Carolinians, brought as a part of a Spanish policy of repopulating the Marianas. Also, a number of people migrated from the Philippines.

The rate of natural growth must have been very high, because epidemics continued, and yet the population increased. Safford (1901) has noted that an epidemic killed 194 persons on Guam in January, 1849. An epidemic of whooping cough reportedly resulted in the deaths of at least 200 children in 1855 (Fritz 1904). And two epidemics swept through the survivors of the smallpox epidemic in 1856 - a measles epidemic in which at least 50 died in 1861, while another epidemic of whooping cough caused the deaths of 100 children in Agana, alone, in 1898 (Fritz 1904 from Underwood, 1973:23).

> "Prior to the time of the decimating smallpox epidemic in 1856, immigration to the Mariana Islands had been minimal, especially in contrast to the rate of population movement into the area which took place after that date. A small Carolinian colony was established on Guam in 1816... This nucleus of Carolinian settlement was augmented somewhat following the great earthquake and tidal wave which apparently hit many Carolinian islands, as well as Guam, in 1849, leading survivors of the calamity to flee their ravaged atoll homes and seek refuge elsewhere in Micronesia...the Mariana Islands were not used extensively as a penal colony prior to the 1870s" (Underwood 1973:23).

Table 1.3 Population by Village and Region: 1831 to 1897

Village	1897	1891	1886	1872	1871	1849	1832	1831
Guam	8,698	8,369	8,144	6,248	6,276	7,940	6,310	6,049
North	6,324	6,153	5,949	4,972	5,251	6,452	5,065	4,831
Agana	5,198	(NA)	4,959	(NA)	(NA)	5,620	4,362	4,137
Other North	1,126	(NA)	990	(NA)	(NA)	832	703	694
Anigua	(NA)	(NA)	169	(NA)	(NA)	217	246	234
Asan	(NA)	(NA)	252	(NA)	(NA)	190	155	158
Tepungan	(NA)	(NA)	234	(NA)	(NA)	73	57	56
Sinajana	(NA)	(NA)	142	(NA)	(NA)	250	177	172
Maria Cristina	(NA)	(NA)	193	(NA)	(NA)	(NA)	(NA)	(NA)
Mongmong	(NA)	(NA)	(NA)	(NA)	(NA)	102	68	74
South	2,374	2,243	2,195	1,276	1,025	1,488	1,245	1,218
Agat-Sumay	1,325	1,151	1,141	641	553	287	218	222
Umatac-Merizo	788	679	664	379	316	582	539	501
Umatac	(NA)	(NA)	225	(NA)	127	224	220	206
Merizo	(NA)	(NA)	439	(NA)	189	358	319	295
Inarajan	261	413	390	256	156	346	244	246
Pago	(NA)	(NA)	(NA)	(NA)	(NA)	273	244	249

Source: Underwood 1973:27; 1831 and 1832 from Safford (1901); 1849 from Cox (1917); 1871 from Corte (1875); 1872 from Ibanez (1886); 1886 from Noticias (1886); 1891 from Resumen (1891), 1897 Census.

The number and the variety of the immigrants increased after 1856. As many as 63 Chinese laborers arrived from Manila aboard the Spanish vessel Denia in 1858 (Safford 1901); and an additional 39 Chinese may have arrived during the 1860s (Fritz 1904). About 35 Japanese agricultural laborers arrived in the Mariana Islands in 1867.

Between 1865 and 1869, over 1,000 Carolinians came to the Mariana Islands, in part to develop the copra industry in the area. An earlier complement of some 600 Carolinians were brought to Guam on labor contracts about 1861 (Beers, 1954), and by 1868, when an additional 95 Carolinians were brought to Guam, a total of 430 Carolinians were listed as resident in the community around what is now Tamuning (Ibanez 1886).

Table 1.3 and 1.4 show village distributions during the 1800s. Since the various sources did not collect data in comparable manners, Underwood (1973) made broad categories which are repeated here.

The population of Guam increased until the 1856 epidemic, and then decreased suddenly. There were also shifts between the North and the South, with increased percentages living in the North until 1871, and then a drifting away from the North to the Southern villages. Immigration could explain some of these differences, of course, particularly the movements of the large numbers of Carolinians. The Agana area continued to have the majority of the population throughout the period.

Table 1.4. Percent Population by Village and Region: 1831 to 1897

Village	1897	1891	1886	1872	1871	1849	1832	1831
Guam	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
North	72.7	73.3	73.0	79.6	83.7	81.3	80.3	79.9
Agana	59.8	NA	60.9	NA	NA	70.8	69.1	68.4
Other North	12.9	NA	12.2	NA	NA	10.5	11.1	11.5
Anigua	NA	NA	2.1	NA	NA	2.7	3.9	3.9
Asan	NA	NA	3.1	NA	NA	2.4	2.5	2.6
Tepungan	NA	NA	2.9	NA	NA	.9	.9	.9
Sinajana	NA	NA	1.7	NA	NA	3.1	2.8	2.8
Maria Cristina	NA	NA	2.4	NA	NA	NA	NA	NA
Mongmong	1.2	1.1	1.3	NA	NA	1.3	1.1	1.2
South	27.3	26.7	27.0	20.4	16.3	18.7	19.7	20.1
Agat-Sumay	15.2	13.7	14.0	10.3	8.8	3.6	3.5	3.7
Umatac-Merizo	9.1	8.1	8.2	6.1	5.0	7.3	8.5	8.3
Umatac	NA	NA	2.8	NA	2.0	2.8	3.5	3.4
Merizo	NA	NA	5.4	NA	3.0	4.5	5.1	4.9
Inarajan	3.0	4.9	4.8	4.1	3.9	4.4	3.9	4.1
Pago	NA	NA	NA	NA	NA	3.4	3.9	4.1

Source: Underwood 1973: 27; 1831 and 1832 from Safford (1901); 1849 from Cox (1917); 1871 from Corte (1875); 1872 from Ibanez (1886); 1886 from Noticias (1886); 1891 from Resumen (1891), 1897 Census

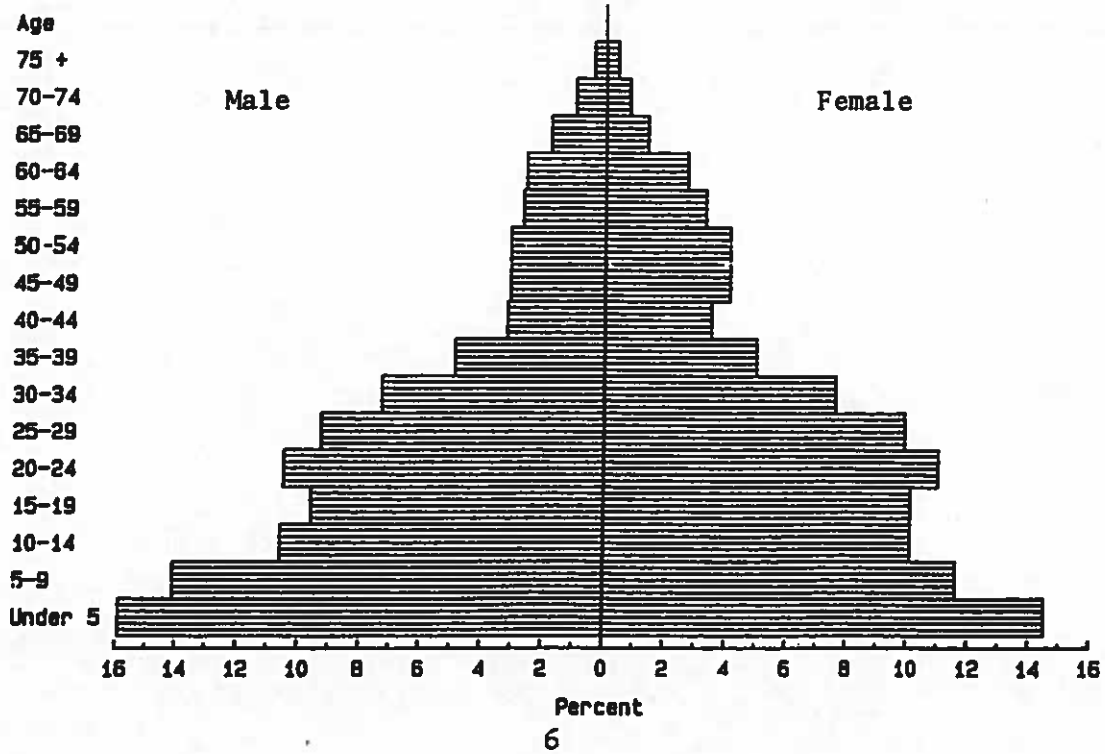
The first full census which was tabulated by age and sex as well as some other characteristics was taken in 1897 (Table 1.5 and Figure 1.1). The results of the census show a slight surplus of females, and a generally youthful population; the median age for Chamorros on Guam was 21.0 years, with 19.9 for males and 21.9 for females. In her work, Underwood (1987) compared the census results with other data she collected, and adjusted the 1897 census counts to make them more accurate. Her adjusted census distributions are also shown in Table 1.5.

Table 1.5. Population by Age and Sex: 1897

Age Group	Spanish Census			Adjusted by Use of Vital Records		
	Total	Males	Females	Total	Males	Females
Total..	8,698	4,137	4,561	9,353	4,409	4,944
Perc.	100.0	100.0	100.0	100.0	100.0	100.0
0 to 4	14.8	15.6	14.0	15.2	15.9	14.5
5 to 9	12.8	14.2	11.5	12.8	14.1	11.6
10 to 14	10.3	10.6	10.0	10.3	10.6	10.1
15 to 19	10.0	9.8	10.1	9.8	9.6	10.1
20 to 24	10.8	10.3	11.2	10.8	10.5	11.0
25 to 29	9.6	9.2	10.0	9.6	9.3	9.9
30 to 34	7.6	7.4	7.8	7.5	7.3	7.6
35 to 39	4.9	5.2	4.6	5.0	4.9	5.0
40 to 44	3.4	3.2	3.5	3.4	3.2	3.5
45 to 49	3.6	3.0	4.0	3.7	3.1	4.1
50 to 54	3.6	2.9	4.3	3.6	3.1	4.1
55 to 59	3.0	2.5	3.4	3.0	2.7	3.3
60 to 64	2.8	2.8	2.7	2.7	2.6	2.7
65 to 69	1.6	1.7	1.4	1.6	1.8	1.4
70 to 74	.8	.9	.8	.9	1.0	.8
75 +	.4	.5	.4	.4	.4	.4
Unknown	.1	.1	.1	...	...	...

Source: Underwood, 1987: 14-15

Figure 1.1 Age and Sex Distribution: 1897



The census results for 1897 by village show that the South was more youthful than the North (Table 1.6). The median ages of the Southern villages were anywhere from 1 to 2 years lower than those for the Northern villages: 18.6 for Merizo, 19.1 for Agat, and 19.9 for Inarajan, compared to 21.7 for Agana and 21.9 for Agana-Adjacent.

Table 1.6. Population of Villages by Age: 1897

Age Group	Total	Agana	Agana-Adj	Agat	Merizo	Inarajan
Total.	8,698	5,198	1,126	1,325	788	261
Perc.	100.0	100.0	100.0	100.0	100.0	100.0
0 to 4	14.8	13.7	13.5	17.4	18.3	18.4
5 to 9	12.8	12.7	11.9	14.5	11.2	13.8
10 to 14	10.3	10.0	10.9	10.3	11.8	8.8
15 to 19	10.0	9.9	9.6	9.4	11.9	9.2
20 to 24	10.8	10.8	10.9	9.8	12.1	11.1
25 to 29	9.6	9.0	10.1	11.4	9.5	10.3
30 to 34	7.6	7.8	7.5	7.8	6.5	6.5
35 to 39	4.9	5.0	5.3	4.5	4.6	4.2
40 to 44	3.4	3.8	3.1	2.5	2.8	3.1
45 to 49	3.6	4.0	4.3	2.4	1.3	3.8
50 to 54	3.6	3.9	5.0	2.8	2.4	1.5
55 to 59	3.0	3.2	2.0	2.7	2.7	5.0
60 to 64	2.8	2.9	2.8	2.0	3.8	1.1
65 to 69	1.6	1.6	2.2	1.3	.8	.8
70 to 74	.8	1.1	.4	.8	.3	.4
75 +	.4	.5	.4	.4	.1	.8
Unknown	.1	.1	.1	0.0	.1	1.1
Median	21.0	21.7	21.9	19.1	18.6	19.9

Source: Underwood, 1973: 28

There were 91 males for every 100 females on Guam in 1897 (Table 1.7). Except for the youngest ages, and the 35 to 39 years olds, there tended to be more females than males at each of the age groups. The other important exception occurred for persons 65 years and over in which the males predominated, especially in the village of Merizo; it is unclear whether this is a case of age-misreporting or real.

Table 1.7. Males per 100 Females by Age: 1897

Age Group	Total	Agana	Agana-Adj	Agat	Merizo	Inarajan
Total	90.7	91.6	85.8	90.9	89.9	96.2
0 to 4	100.8	108.8	108.2	90.9	80.0	84.6
5 to 9	111.6	111.9	112.7	111.0	109.5	111.8
10 to 14	95.9	108.0	61.8	78.9	111.4	109.1
15 to 19	87.9	91.4	96.4	89.4	56.7	118.2
20 to 24	83.2	75.3	86.4	97.0	115.9	81.2
25 to 29	84.0	78.0	90.0	101.3	70.5	125.0
30 to 34	86.5	86.2	73.5	63.5	168.4	183.3
35 to 39	100.9	103.1	114.3	96.7	80.0	83.3
40 to 44	84.3	97.0	59.1	57.1	100.0	33.3
45 to 49	68.9	63.3	65.5	113.3	100.0	66.7
50 to 54	60.1	64.8	51.4	42.3	90.0	33.3
55 to 59	67.7	63.7	64.3	100.0	61.5	62.5
60 to 64	94.4	105.5	93.8	92.9	50.0	200.0
65 to 69	104.5	107.3	66.7	112.5	500.0	100.0
70 to 74	108.6	96.4	100.0	266.7	100.0	0.0
75 +	116.7	80.0	300.0	400.0	...	100.0

Source: Underwood, 1973: 28

AMERICAN PERIOD

At the end of the Spanish-American War, Guam became a territory of the United States. Censuses were taken by the Naval governor in 1901 and 1910. Guam was not included in the decennial census until 1920.

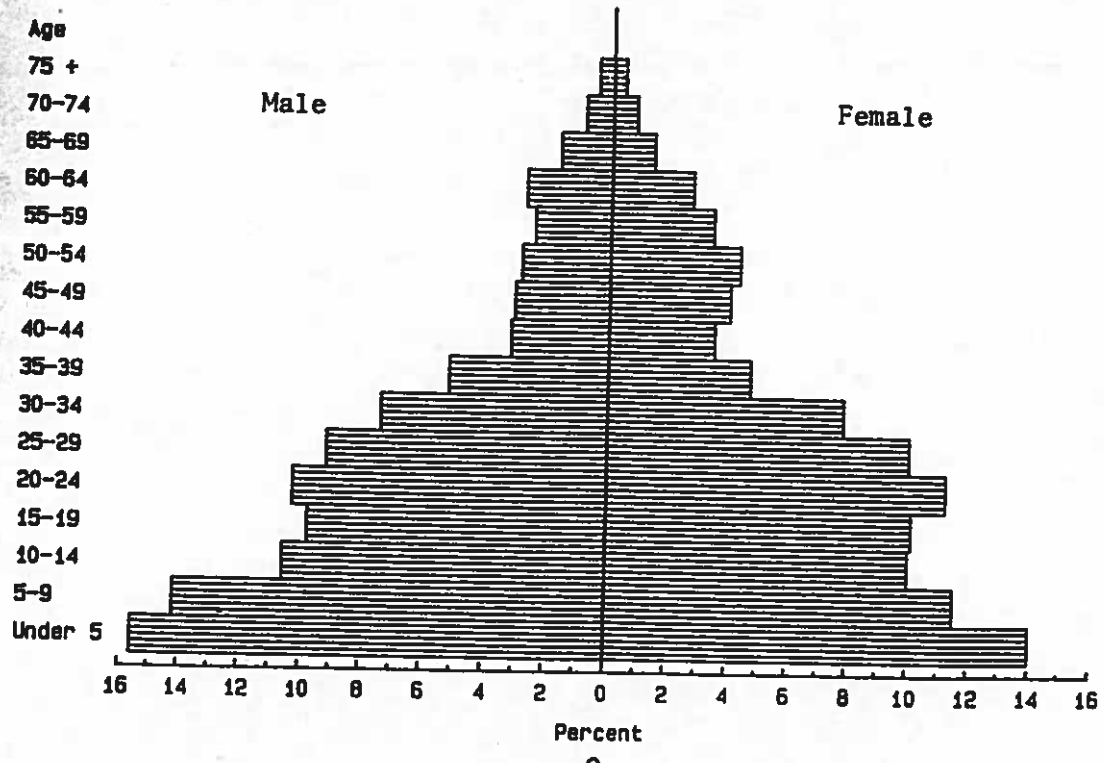
In working with her reconstructed data set, Underwood produced an estimated census for 1918, just prior to the flu epidemic which killed many people on Guam (Table 1.8 and Figure 1.2). By 1918, according to her figures, there were still more females than males, but the population had grown considerably, partly because of increased medical attention provided by the U.S. Naval Administration. The population remained youthful, with the median age for the total being 18.5 years: 17.4 years for males and 19.4 years for females.

Table 1.8. Estimated Population by Age and Sex: 1918

Age Group	Numbers			Percent		
	Total	Males	Females	Total	Males	Females
Total.....	15,000	7,134	7,866	100.0	100.0	100.0
Under 5 years.....	2,216	1,112	1,104	14.8	15.6	14.0
5 to 9 years.....	1,915	1,010	905	12.8	14.2	11.5
10 to 14 years.....	1,547	757	790	10.0	10.6	10.0
15 to 19 years.....	1,494	699	795	10.0	9.8	10.1
20 to 24 years.....	1,618	735	883	10.8	10.3	11.2
25 to 29 years.....	1,444	659	785	9.6	9.2	10.0
30 to 34 years.....	1,141	529	612	7.6	7.4	7.8
35 to 39 years.....	735	369	366	4.9	5.2	4.7
40 to 44 years.....	506	231	275	3.4	3.2	3.5
45 to 49 years.....	533	218	315	3.6	3.1	4.0
50 to 54 years.....	546	205	341	3.6	2.9	4.3
55 to 59 years.....	448	181	267	3.0	2.5	3.4
60 to 64 years.....	416	202	214	2.8	2.8	2.7
65 to 69 years.....	233	119	114	1.6	1.7	1.4
70 to 74 years.....	127	66	61	.8	.9	.8
75 years and over....	67	36	31	.4	.5	.4
Unknown.....	14	6	8	.1	.1	.1

Source: Underwood 1983: 3

Figure 1.2 Age and Sex Distribution: 1918



The population increased from under 10,000 when the U.S. Naval Administration began, to almost 15,000 in 1920. Guam has been included in each of the succeeding decennial censuses after 1920, although with a different questionnaire from that used Stateside, and with different processing.

The percentage of natives (meaning Chamorro) decreased from almost 100 percent to 91 percent in 1930, partly because of the varying numbers of naval personnel on island. There were very few other immigrants (unless these were included in the "native" totals). As we will see in later chapters, the proportions changed drastically after World War II when Guam suddenly became strategically important.

Table 1.9. Population by Ethnicity: 1901 to 1940

Ethnicity	1940	1935	1930	1925	1920	1915	1910	1901
Total.....	23,067	20,899	19,139	16,648	14,724	13,689	11,953	9,676
Percent.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Natives.....	93.2	93.1	91.1	91.6	93.0	94.7	97.2	99.5
Non-natives.....	6.8	6.9	8.9	8.4	7.0	5.3	2.8	0.5
Naval personnel..	3.4	3.3	5.0	5.2	3.2	(NA)	1.0	0.0
Others.....	3.4	3.6	3.9	3.3	3.7	(NA)	1.8	0.5

Source: Thompson 1941:32; Thompson cites Annual Reports of the Governor of Guam.

THE DECENNIAL CENSUSES - 1920 TO 1970

Beginning in 1920, Guam was included in the population part of the Decennial Census and in 1960 for the Housing census. In the later chapters we will include comparable data from those censuses whenever appropriate in an effort to show population and housing trends over time.

THE 1980 DECENNIAL CENSUS OF POPULATION AND HOUSING

The 1980 decennial census was conducted in conjunction with the 1980 census of the United States. The questionnaire was developed at the Census Bureau but was reviewed by participants from the Pacific Islands areas in May, 1979, at a Pacific-areas conference in Honolulu.

The questionnaire was similar to that used in the States, and was modified to account for different conditions on Guam. Unlike in the States, all housing data was collected for all housing units, and all persons responded to all questions. Also, the census was collected through direct interview. Enumerators visited and listed every housing unit, asking the questions as worded in the questionnaire (or translating into the native language, if necessary), and recording the answers. A single questionnaire was used, which contained all the questions asked of every person and household.

Special questionnaires were used for the enumeration of persons in group quarters such as the hospital, the prison, dormitories at the University of Guam, etc. These forms contained the same population questions that appeared on the regular questionnaire but did not include any housing questions.

Responses were determined by the questionnaire and the instructions given to the enumerator; these instructions had been adapted from instructions used Stateside, but were modified to account for the differences on Guam from those found in the States. The definitions and explanations for each subject are included in the discussions of these subjects in the later chapters of this monograph, and are drawn largely from various technical materials and procedures used in the data collection.

Facsimiles of the questionnaire pages containing the population and housing questions used to produce this report are presented in Appendix A.

GENERAL ENUMERATION PROCEDURES

Usual Place of Residence. In accordance with census practice, each person enumerated in the 1980 census was counted as an inhabitant of his or her "usual place of residence", which was generally construed to mean the place where the person lived and slept most of the time. This place was not necessarily the same as the person's legal residence or voting residence. In the vast majority of cases, however, the use of these different bases of classification would produce substantially the same statistics, although there might be appreciable differences for a few areas.

The implementation of this practice resulted in the establishment of residence rules for certain categories of persons whose usual place of residence was not immediately apparent. Therefore, persons were not always counted as residents of the place where they happened to be staying on Census Day. Persons without a usual place of residence, or persons with no one at their usual place of residence to report them to a census taker, however, were counted where they happened to be staying.

U.S. Armed Forces. Members of the United States Armed Forces living on a military installation were counted, as in previous censuses, as residents of the area in which the installation was located; members of the U.S. Armed Forces not living on a military installation were counted as residents of the areas in which they were living. Persons in families with U.S. Armed Forces personnel were counted where they were living on Census Day (i.e., the military installation or "off base", as the case might be).

Each U.S. Navy ship was attributed to the geographic area that the Department of the Navy designated as its homeport.

Crews of Merchant Vessels were enumerated at the port where they were berthed (if they were berthed), excluding those not flying a U.S. flag.

Persons away at school, if college students, were counted as residents of the area in which they were living while attending college. However, children in boarding schools below the college level were counted at their parental home.

Persons at institutions were counted as residents of the area where the institution was located. Patients in short-term wards of general hospitals were counted at their usual place of residence; if they had no usual place of residence or there was no one at their usual place of residence to report them, they were counted at the hospital.

Persons away from their residence on Census Day at hotels, motels, etc., on the night of March 31, 1980, having their usual home on Guam and who indicated that no one was at home to report them in the census would be enumerated as residents of the hotel, motel, etc. Information on persons away from their usual place of residence who indicated that someone was at home to report them was obtained from other members of their families, resident managers, neighbors, etc. If an entire household was away during the whole period of the enumeration, information on that household was obtained from neighbors.

Residents Abroad. Residents who were abroad for an extended period (in the U.S. Armed Forces, working at civilian jobs, studying at universities outside Guam, etc.) were not included in the population of Guam. On the other hand, residents who were temporarily abroad on vacations, business trips, and the like, were counted at their usual residence on Guam.

Persons from Other Areas having their usual residence (legally or illegally) on Guam on Census Day, including those working here and those attending school (but not living at a chancellery or consulate), were included in the enumeration, as were members of their families with them, regardless of citizenship. However, persons from other areas, temporarily visiting or traveling on Guam, were not enumerated in the 1980 census.

DATA COLLECTION PROCEDURES

The 1980 Census of Guam was conducted through direct interview. Beginning on Census Day, April 1, 1980, enumerators visited and listed every household asking the questions as worded on the questionnaire, and recording the answers. A single questionnaire was used, which contained all the questions asked of every person and household.

Special questionnaires were used for the enumeration of persons in group quarters such as colleges and universities, hospitals, and prisons. These forms contained the same population questions that appeared on the regular questionnaire but did not include any housing questions.

PROCESSING PROCEDURES

The 1980 census questionnaires were processed in a manner similar to that for the 1970 census. They were designed to be processed electronically by the Film Optical Sensing Device for Input into Computer (FOSDIC). For most items on the questionnaire, the information obtained by the enumerator was recorded by marking the answers in the predesignated positions that would be "read" by FOSDIC from a microfilm copy of the questionnaire and transferred onto computer tape with no intervening manual processing. The computer tape excluded information on individual names and addresses.

The tape containing the information from the questionnaires was processed on the Census Bureau's computers through a number of editing and tabulating steps. Among the products of this operation were computer tapes from which the tables in the reports were prepared on phototypesetting equipment at the Government Printing Office.

SOURCES OF ERROR

Since the 1980 population and housing data for Guam were tabulated from entries for all persons and housing units on all questionnaires, these data were not subject to sampling error. In any large-scale statistical operation such as a decennial census, however, human and mechanical errors occur. These errors are commonly referred to as nonsampling errors. Such errors include failure to enumerate every housing unit or person in the population, not obtaining all required information from respondents, obtaining incorrect or inconsistent information, and recording information incorrectly. Errors can also occur during the field review of the enumerator's work, the clerical handling of the census questionnaires, or the electronic processing of the questionnaires. Quality control and review measures were used throughout the data collection and processing phases of the 1980 census to minimize undercoverage of the population and housing units and to keep errors at a minimum.

EDITING OF UNACCEPTABLE DATA

The objective of the processing operation was to produce a set of statistics that described the population and housing as accurately and clearly as possible.

In the field, questionnaires were reviewed for omissions and certain inconsistencies by a census clerk or an enumerator and, if necessary, a followup was made to obtain missing information. In addition, a similar review of questionnaires was done in the central processing office. As a rule, however, editing was performed by hand only when it could not be done effectively by machine.

There are two means by which incomplete or inconsistent data on the questionnaires were corrected during the editing process: allocation and substitution. Allocations or assignments of acceptable codes in place of unacceptable entries, were needed most often when there was no entry for a given item or when the information reported for a person on that item was inconsistent with other information for the person. As in previous censuses, the general procedure for changing unacceptable entries was to assign an entry for a person that was consistent with entries for other persons with similar characteristics. The assignment of acceptable codes in place of blanks or unacceptable entries enhanced the usefulness of the data. The allocation technique for unknown age illustrates the process:

1. The computer stored ages of persons by selected characteristics, including sex, relationship, marital status, and characteristics of other household members.

2. Each stored age was retained in the computer only until a succeeding person having the same set of characteristics and having age reported was processed through the computer during the electronic edit operation. Then the reported age entry of the succeeding person was stored in place of the one previously stored.

3. When the age of the person was not reported, or the entry was unacceptable, the age assigned to this person was that which was stored for the last person who otherwise had the same set of characteristics.

The 1980 census data on the economic questions such as industry, occupation, class of worker, work experience, and income were processed using an allocation system which assigned values to missing entries in these questions, as necessary, from a single respondent with similar socioeconomic characteristics.

Three population and two housing reports were published after the 1980 census. These were:

PC80-1-A54	Number of Inhabitants
PC80-1-B54	General Population Characteristics
PC80-1-C/D54	Detailed Social and Economic Characteristics
HC80-1-A54	General Housing Characteristics
HC80-1-B54	Detailed Housing Characteristics

In addition to the printed reports, results of the 1980 census also were provided on computer tape in the form of summary tape files (STFs). These data products were designed to provide statistics with greater subject and geographic detail than was feasible or desirable to provide in printed reports. The STF data were made available at nominal cost. Because of likelihood of incompatible computer systems, the STF data were also provided on microfiche. Recently, the data have also been provided on floppy diskettes which can be read on IBM-PC compatible equipment.

STF 1 provides population and housing data summarized for Guam as a whole, for election districts, for census designated places (villages), and for enumeration districts. The data include those shown in PC80-1-A54, PC80-1-B54, and HC80-1-A54. STF 3 contains data on various population and housing subjects such as education, employment, and income. The areas covered are the same as STF 1.

GEOGRAPHIC DISTRIBUTION

The geographic distribution of Guam's inhabitants has been transformed since pre-contact times, when the Chamorro population lived in small hamlets located both along the coast and in the interior. Early historical accounts relate that along the coast, these hamlets consisted of approximately 50 to 150 huts, while the interior hamlets were smaller, of from 6 to 20 huts (Carano and Sanchez, 1964). By 1681, the Spanish-Chamorro wars had resulted in the destruction of the smaller villages and the forced relocation of the native people into a few large villages, where the Spanish could control the population.

The Spanish established the government in Agana because of its long history as the political and cultural center of Guam. In order to facilitate the affairs of government outside Agana, Spanish authorities divided Guam into municipalities. Each municipality consisted of several villages or pueblos and was under the charge of a native magistrate called a "gobernadorcillo" ("little governor"). This system of municipal government continued under the American authorities after 1898. The gobernadorcillo was renamed as commissioner, and a deputy commissioner position was instituted to assist the commissioner.

Municipalities thus became the primary divisions of Guam for census reporting. By the 1920 Census, Guam had 8 separate municipalities, as shown in Figure 1.3. These municipalities were Agana, Asan, Piti, Sumay, Yona, Agat,

Inarajan and Merizo. U.S. naval station personnel were not counted as residents of Guam, but were included in the continental United States. The 1920 census report shows population data for each municipality and for rural sections outside of Agana City.

The reporting of 1930 census data was similar to that of 1920 except that, in 1930, persons on naval reservations, including U.S. ships stationed on Guam, were counted as residents of Guam. These results were not included in the population of any municipality, but were compiled separately. A greater portion of this naval population should, according to the 1930 census report, have been assigned to the city of Agana, but the exact location of these reservations could not be determined from the information given by the enumerators on the census schedules.

Substantial reorganization of the municipalities occurred in 1931 in preparation for Guam's first elected Congress and first elected commissioner system. Executive Order 53 set forth the divisions of the old municipality of Agana into the municipalities of Agana, Barrigada, Dededo, and Yigo, and further subdivided the municipality of Barrigada into Barrigada and Sinajana districts, and Dededo into Dededo and Machanao districts. In addition, Merizo was subdivided into Merizo and Umatac districts, and Inarajan was subdivided into Inarajan and Talofofo districts. Reorganization thus created 7 new municipalities and districts for a total of 15 (See Figure 1.4).

The Second Guam Congress was the first elected Congress in the Territory, with the population counts of the 1930 census used for apportionment.

The 1940 census presented total counts for all 15 municipalities and districts, as well as for over 100 towns, barrios and districts within the municipalities. Military personnel were included within the municipality, district, or town where the military facility was located, and U.S. naval ships were listed separately as a portion of Sumay. During World War II, most of the towns and cities (including Agana city) were totally destroyed or severely damaged. In the reconstruction process, many of the communities were relocated and the division of municipalities into barrios was abandoned. There was also some reorganization of the municipalities of Agana and Sinajana in 1947, as part of Agana was annexed to Sinajana (Figure 1.5).

The 1950 census reported data for the 15 municipalities existing in 1940 and for 20 villages or cities existing as minor subdivisions within the municipalities. For the first time, census reports made no mention of the presence of military quarters, even though Guam's population had more than doubled between 1940 and 1950, almost exclusively as the result of post-war military activities.

One of the provisions of the Organic Act of 1950 caused the organization, authority, and responsibilities of the commissioner system to continue to follow the pattern outlined in Guam Congress Bill No. 16, passed in 1948. However, between 1950 and 1960, Guam's municipalities again underwent extensive reorganization. A local law was enacted to establish the election district boundaries for the purpose of electing the district commissioners, creating 6 new districts and eliminating 2.

Figure 1.3 Guam, 1920 and 1930

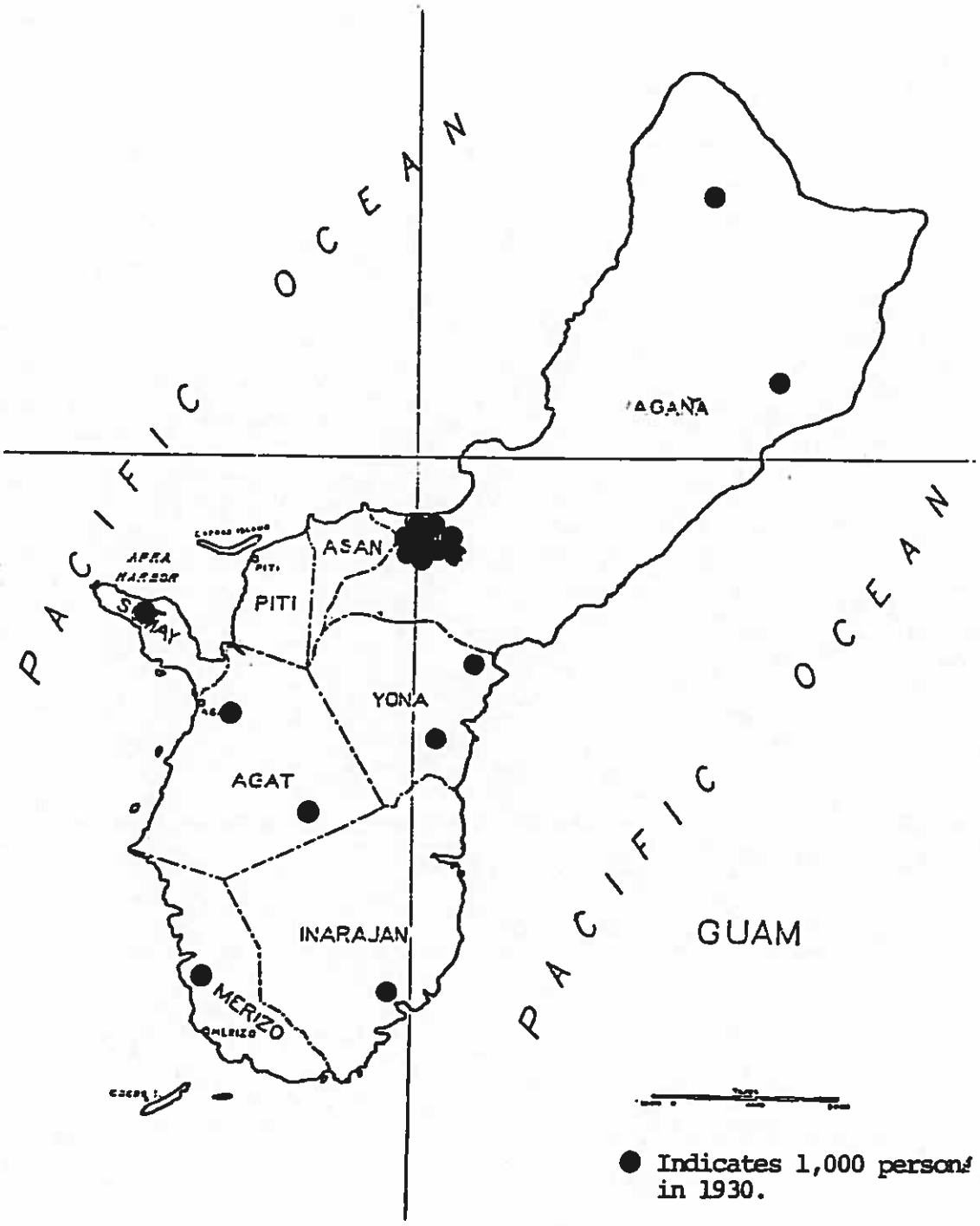


Figure 1.4 Guam 1940

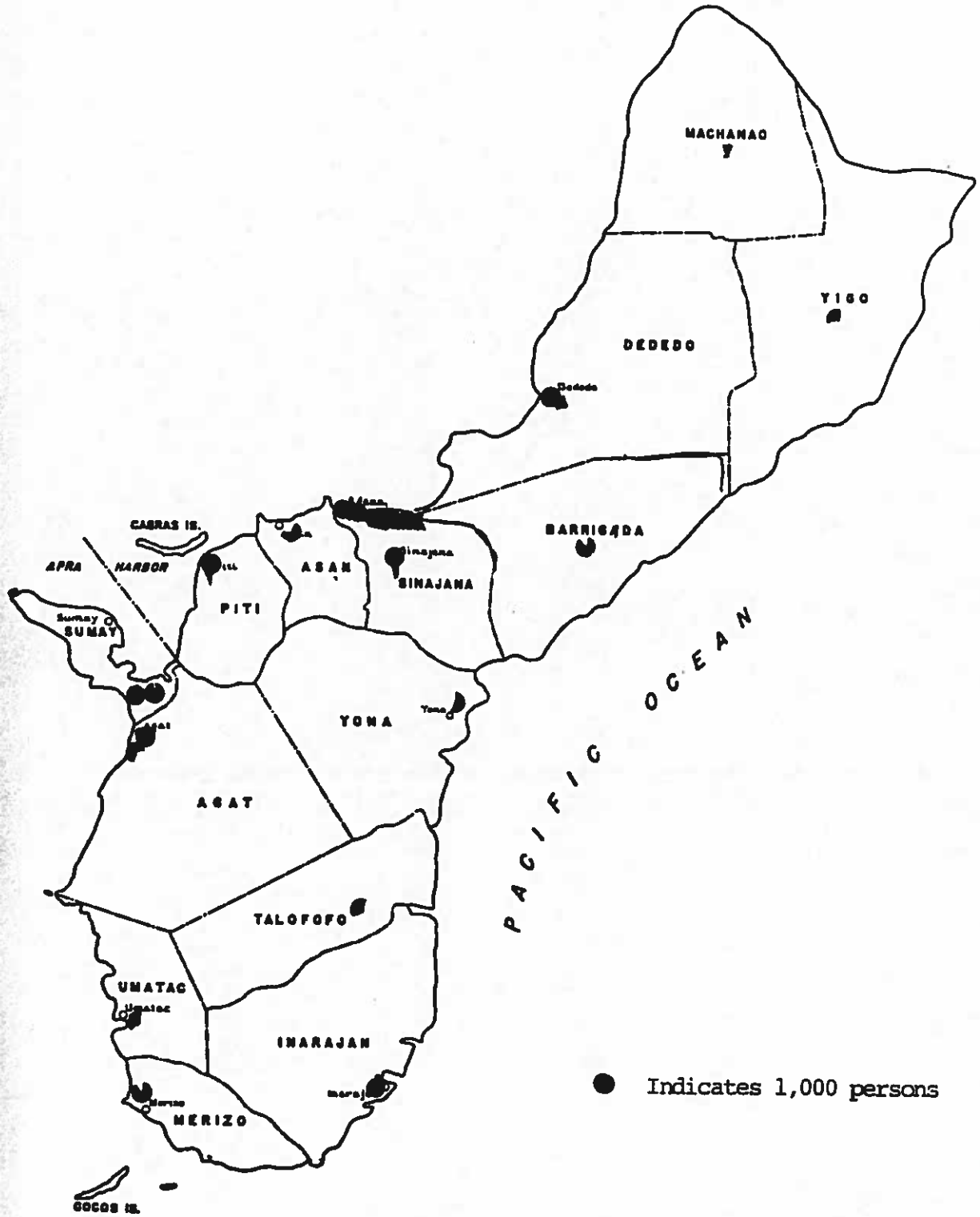


Figure 1.5 Guam, 1950

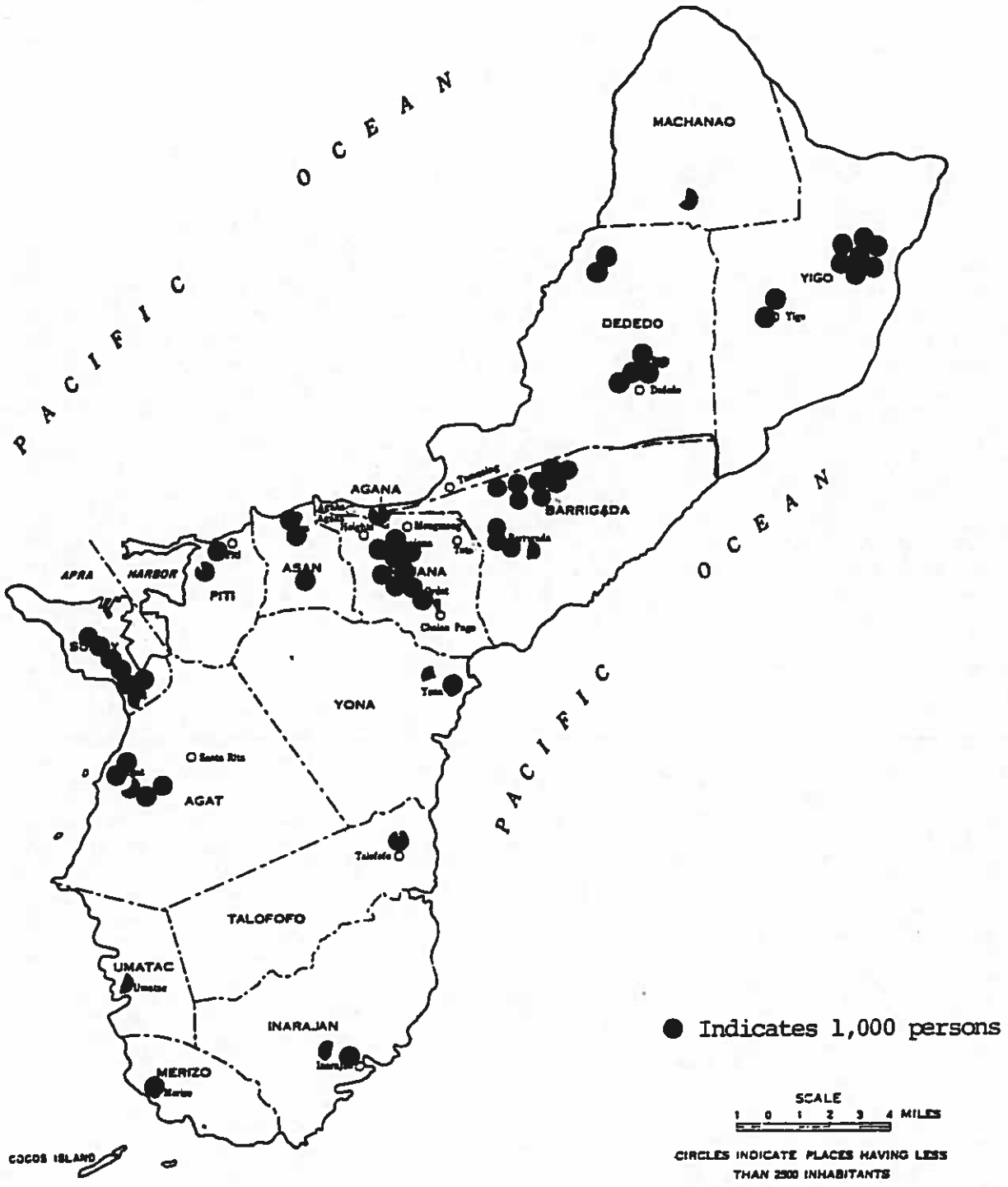


Figure 1.6 Guam, 1960

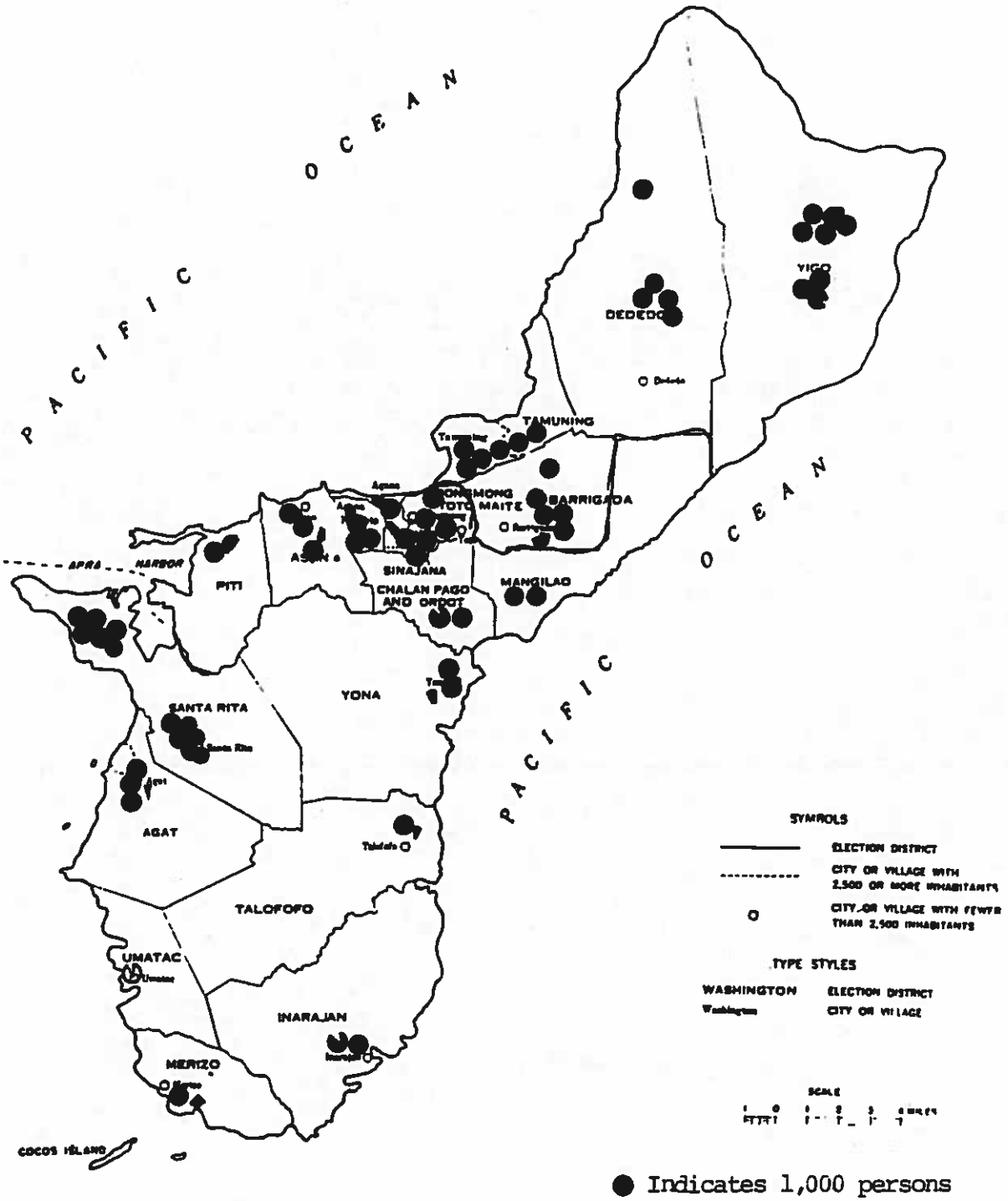


Figure 1.7 Guam, 1970

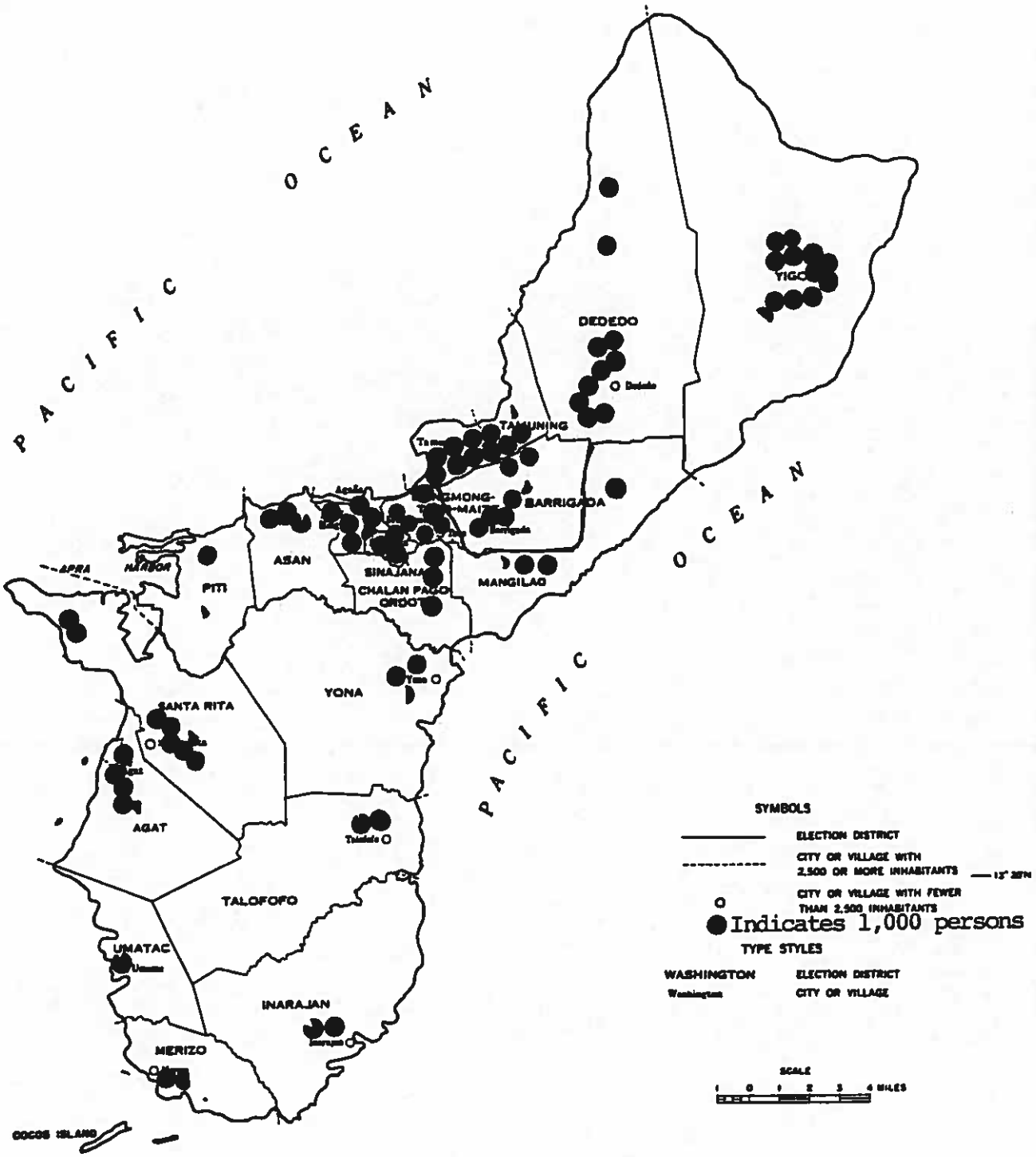
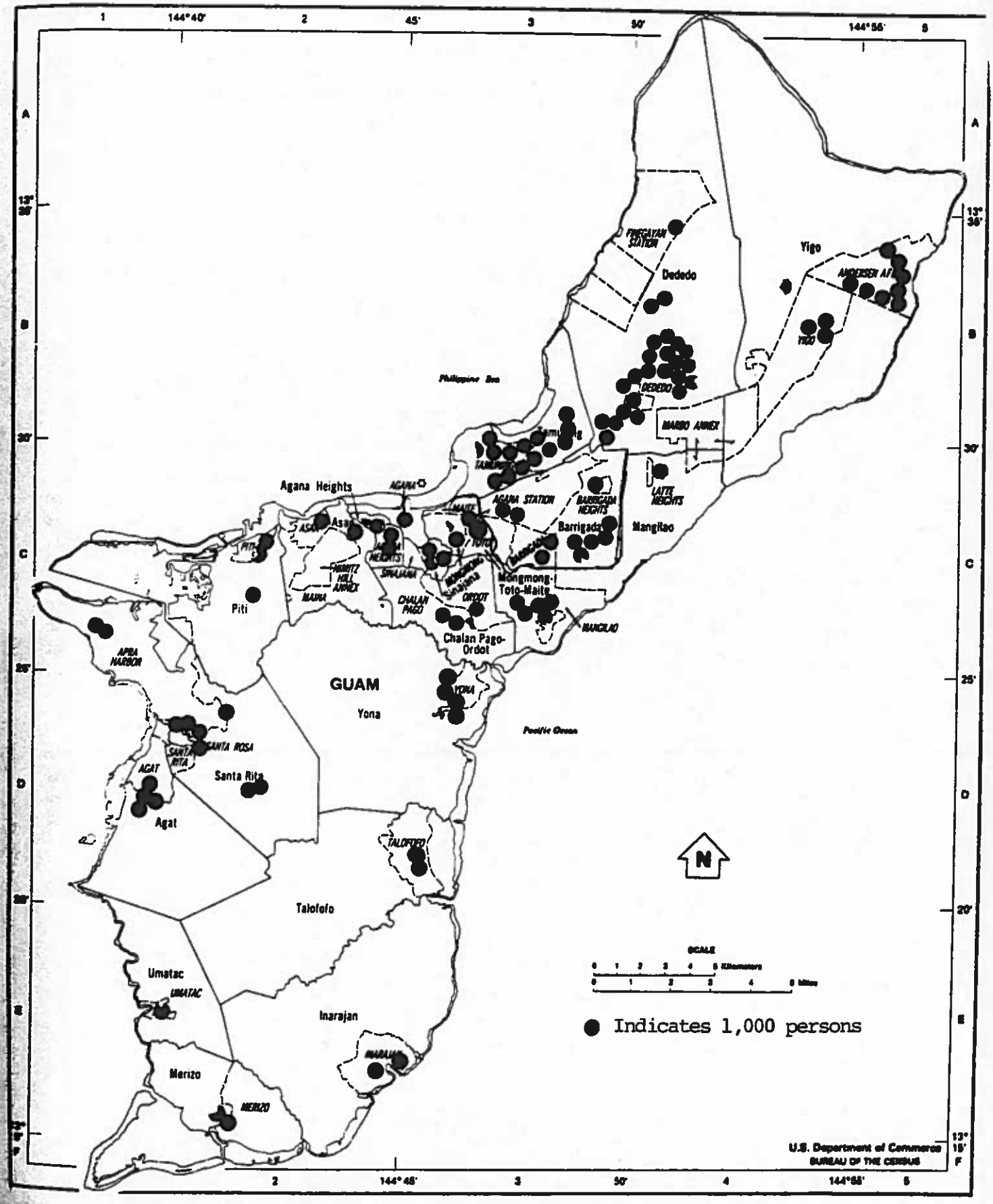


Figure 1.8 Guam, 1980



The 1960 census results were for 19 election districts (Figure 1.6). These districts included the 6 newly created municipalities of Tamuning, Mongmong-Toto-Maite, Mangilao, Chalan Pago-Ordot, Agana Heights, and Santa Rita. Because Sumay and Machanao were claimed by the military and ceased to require elected representation by commissioner, they were incorporated into the boundaries of other districts. Sumay was annexed into Santa Rita, and Machanao into Dededo and Yigo. 1970 and 1980 election district boundaries remained the same as the boundaries used in 1960, so census data for those three periods are comparable (Figures 1.7 and 1.8).

Beginning in 1960, the Census Bureau began using a new term, that of "Place", and later "Census Designated Place" to define generally closely settled centers of population without corporate limits. A Place with a population of 2,500 or more is considered urban, and the remaining areas are rural. Places in 1960, 1970, and 1980 are comparable; in 1980, new Places were added in addition to the ones used previously. Although the definition of Place remained the same, the interpretation and application of that definition allowed the addition of military housing areas in 1980 that were not allowed in 1970. Therefore, the expansion of urban areas between 1970 and 1980 was partially the result of including military housing in 1980.

POPULATION DISTRIBUTION BY BROAD GEOGRAPHIC AREA

Although election district boundaries have been altered considerably between 1920 to 1980, the broad areas of Northern, Central, and Southern Guam have remained intact (See Figures 1.3 through 1.8). For the purpose of data analysis, comparability by geographic area over time can be maintained between 1940 and 1980 within these three broad areas. The major disadvantage to this system is the inclusion in the South of the district of Santa Rita, which contains a single large government quarters area that distorts some of the data. Beginning with 1960, the North consisted of Dededo, Tamuning and Yigo. Central Guam consisted of Agana, Agana Heights, Asan, Barrigada, Chalan Pago/Ordot, Mangilao, Mongmong-Toto-Maite, Piti and Sinajana. The South was composed of Agat, Inarajan, Merizo, Santa Rita, Talofofo, Umatac and Yona.

Prior to World War II, 63 percent of the population was concentrated in Central Guam, primarily in the capital city of Agana; 29 percent lived in the South; and only 8 percent resided in the North. While population increases occurred in each of the three regions between 1940 and 1980, the vast majority of the growth took place in the Northern portion of the island (Table 1.10)

Table 1.10 Distribution by Region on Guam: 1940 to 1980

Region	Numbers					Percent				
	1980	1970	1960	1950	1940	1980	1970	1960	1950	1940
Total..	105,979	84,996	67,044	59,498	22,290	100.0	100.0	100.0	100.0	100.0
North....	47,583	32,540	18,752	16,147	1,795	44.9	38.3	28.0	27.1	8.1
Central..	34,526	31,266	25,479	26,495	13,946	32.6	36.8	38.0	44.5	62.6
South....	23,870	21,190	22,813	16,856	6,549	22.5	24.9	34.0	28.3	29.4

Note: See text for inclusion of election districts in regions.
Source: U.S. Bureau of the Census Decennial Reports

The proportion of persons living in the North increased steadily from 8 percent in 1940 to 45 percent in 1980, with the Northern population growing by 45,788 persons over the 40 year period. Central Guam showed substantial and steady population growth during the same period, increasing by 20,580 persons; however, the proportion of the population living there declined from 63 percent to 33 percent. In contrast, Guam's Southern area did not show steady growth during the same period. The population of the South grew by 16,264 persons between 1940 and 1960, declined by 1,623 persons during the 1960s, and recovered 2,680 persons during the 1970s. By 1980, the proportion of persons residing in the South dropped to 23 percent.

One of the causes for these changes in population distribution was the occupation of the island by the Japanese armed forces during World War II and the continued presence of the United States military after Guam's recapture. World War II had a profound impact on the relocation of the civilian population out of established communities and into areas that were either more convenient to the occupying forces or that were safer for the inhabitants. War activities caused certain villages to cease to be inhabited by civilians, including most of Machanao in the North and Sumay in the South. The village of Agana in Central Guam became nearly deserted.

Another cause for the changes in population distribution was Guam's increased strategic value to the United States during and following World War II. In 1944, Guam became the only location in the Western Pacific large enough to hold major U.S. military bases and to be completely under American control when the Philippines gained independence from the United States. As a result, the Navy and Air Force built large military installations on Guam, seizing over one-third of the island's land and water in the process.

Military personnel and their dependents were concentrated into densely settled areas on and near bases, which were primarily in the Northern and Central portions of the island, without regard to the location of established local communities. Because base areas and government quarters areas were targeted by the military government for the development of infrastructure, and also because civil service jobs on bases were available to the civilian community, the Northern and Central portions of the island attracted migration by the resident population and new residents.

The location of military facilities was determined largely by Guam's geography. The flat limestone plateau of the North became the location of

Andersen Air Force Base; Guam's natural deep water port became the center of regional Naval activities; and an airport site in Central Guam already under construction by the Japanese became the Naval Air Station and the civilian air terminal. Southern Guam, with its steep central spine of mountains, was unsuitable for most military activities other than a Naval magazine and watershed. These remain vast, but underdeveloped, holdings.

GEOGRAPHIC DISTRIBUTION BY ELECTION DISTRICT

There were considerable variations in population growth between the individual election districts of Guam within the regions. Although the total population of the island increased by almost 25 percent between 1970 and 1980, 3 districts more than doubled in population, while several others lost population. Table 1.11 shows growth of each election district from 1960 to 1980. As mentioned earlier, major changes in election district boundaries between 1930 and 1940 and between 1950 and 1960 make district analysis for those decades impossible.

Table 1.11 Population by Region and Election District: 1960 to 1980

Region / Election District	Number			Percent			Percent Change	
	1980	1970	1960	1980	1970	1960	70-80	60-80
Total	105,979	84,996	67,044	100.0	100.0	100.0	24.7	58.1
North	47,583	32,540	18,752	44.9	38.3	28.0	46.2	153.7
Dededo	23,644	10,780	5,126	22.3	12.7	7.6	119.3	361.3
Tamuning	13,580	10,218	5,944	12.8	12.0	8.9	32.9	128.5
Yigo	10,359	11,542	7,682	9.8	13.6	11.5	-10.2	34.8
Central	34,526	31,266	25,479	32.6	36.8	38.0	10.4	35.5
Agana	896	2,119	1,642	.8	2.5	2.4	-57.7	-45.4
Agana Heights	3,284	3,156	3,210	3.1	3.7	4.8	4.1	2.3
Asan	2,034	2,629	3,053	1.9	3.1	4.6	-22.6	-33.4
Barrigada	7,756	6,356	5,430	7.3	7.5	8.1	22.0	42.8
Chalan Pago/Ordot	3,120	2,931	1,835	2.9	3.4	2.7	6.4	70.0
Mangilao	6,840	3,228	1,965	6.5	3.8	2.9	111.9	248.1
Mong-Toto-Maite	5,245	6,057	3,015	4.9	7.1	4.5	-13.4	74.0
Piti	2,866	1,284	1,467	2.7	1.5	2.2	123.2	95.4
Sinajana	2,485	3,506	3,862	2.3	4.1	5.8	-29.1	-35.7
South	23,870	21,190	22,813	22.5	24.9	34.0	12.6	4.6
Agat	3,999	4,308	3,107	3.8	5.1	4.6	-7.2	28.7
Inarajan	2,059	1,897	1,730	1.9	2.2	2.6	8.5	19.0
Merizo	1,663	1,529	1,398	1.6	1.8	2.1	8.8	19.0
Santa Rita	9,183	8,109	12,126	8.7	9.5	18.1	13.2	-24.3
Talofofo	2,006	1,935	1,352	1.9	2.3	2.0	3.7	48.4
Umatac	732	813	744	.7	1.0	1.1	-10.0	-1.6
Yona	4,228	2,599	2,356	4.0	3.1	3.5	62.7	79.5

Source: U.S. Bureau of the Census Decennial Reports

The villages with the greatest increases in population between 1970 and 1980 were Dededo, Piti, and Mangilao, and those showing decreases were Yigo, Agana, Asan, Mongmong-Toto-Maite, Sinajana, Agat, and Umatac. There were many factors influencing these variations in population growth, although war and post-war activities were especially significant.

The village of Agana has traditionally been Guam's most important community, possessing a rich history dating back to the pre-contact era (Sanchez, 1979:9). Its chiefs were the most respected in the Marianas in pre-contact Guam. The Spanish recognized this and established the seat of government at Agana. The U.S. Navy continued to use Agana as its administrative center when it began its administration of the island.

At the beginning of American administration of Guam, Agana's boundaries actually encompassed all of the Northern and most of the Central portions of Guam. By 1930, Agana contained 11,042 persons. The population was so concentrated in one area that urban Agana contained 8,690 persons in 1930, nearly half the island's population. Agana city's population continued to grow until 1940, when it had a population of 10,004 (Table 1.12)

Table 1.12 Population of Agana City: 1920 to 1980

Year	Number	Number Change	Percent of Total Population
1980.....	896	-1223	.8
1970.....	2119	477	2.5
1960.....	1642	842	2.5
1950.....	800	-9204	1.3
1940.....	10004	1314	44.9
1930.....	8690	1258	47.0
1920.....	7432	...	56.0

Note: The boundaries of Agana City have remained constant between 1920 and 1980.
Source: U.S. Bureau of the Census Decennial Reports

The Japanese occupied Guam from December 10, 1941 until July 1944. Agana was used as their seat of government and their military headquarters; however, forced relocation of the population left the city virtually deserted, with no more than 200 families. The recapture of the island in 1944 was preceded by American bombardment from shipboard artillery for 13 consecutive days prior to Guam's recapture, totally destroying the city.

After Guam's recapture, U.S. military and civilian authorities decided to reestablish the government in Agana. Because of the massive destruction of the city during Guam's recapture, the military government literally bulldozed the remains of the city into the sea, creating a new peninsula of land, and obliterating all remaining streets and property boundary markers.

A new system of streets was laid out in Agana, using a different method of surveying from the Spanish system previously used. Later, in the 1950's, the

Government of Guam superimposed still another survey methodology on top of the other two. This resulted in a "fractional lot" problem in Agana that is still being resolved in the 1980's. The depopulation of the city during the war and unresolved property disputes after the war caused the number of persons living in Agana to decline from 10,004 persons in 1940 to just 800 persons in 1950. A portion of its pre-war population was regained by 1970, but the population declined from 2,119 to 896 persons between 1970 and 1980.

The most dramatic growth occurred in the Northern district of Dededo, growth which began shortly after the liberation in 1944. From a total population of 5,126 in 1960, Dededo's population increased by more than 360 percent during the next 20 years, reaching 23,644 persons in 1980. This striking increase was fueled by in-migration of Filipinos, Micronesians, Statesiders and other non-indigenous people. Private residential and apartment construction, as well as business construction, flourished in the area, making it the largest and fastest growing district in the Territory.

The Central, coastal village of Piti experienced the largest percent population increase (123 percent) of any district between 1970 and 1980. However, growth in the civilian, non-federal lands was 230 persons, or 18 percent between 1970 and 1980. Piti contains part of Apra Harbor, which has been under U.S. Navy control since Guam became a U.S. possession. It was the homeporting of a Navy ship in Apra Harbor between 1970 and 1980, housing 1,352 military personnel, that caused the population of the Piti to double between 1970 and 1980.

The Northern district of Yigo showed population growth during the 1960's, but declined by 10 percent between 1970 and 1980. After most of Machanao's land area became occupied by Andersen Air Force Base immediately after World War II, Machanao was annexed to Yigo. The fluctuations in Yigo's population between 1960 and 1980 have been partially the result of changes in the number of persons living on the base and in government quarters near the base. The beginning and ending of the Vietnam Conflict, a war in which Guam's Air Force personnel played a major role, contributed to the growth of the population in Yigo during the 1960's, and the decreased population during the 1970's. The civilian-held portion of Yigo actually grew in population by 90 percent (2,506 persons) between 1970 and 1980, while the population on federal lands decreased by 42 percent.

The Central district of Asan was another area losing population between 1960 and 1980, declining by 33 percent during the period. In the late 1970s, continuing into the 1980s, Asan upgraded and modernized its infrastructure and public utilities under a federally-supported community redevelopment program. Delays to the urban renewal project caused by archaeological findings and funding problems left the project incomplete prior to the 1980 census. In addition to this, part of Asan was designated as a U.S. War in the Pacific National Park. The limited land area left for redevelopment has contributed to the decline in population.

The district of Mongmong-Toto-Maite in Central Guam is comprised of three distinct communities. It was established as a single district in 1946. The number of persons living there shrank by 13 percent between 1970 and 1980 solely because of a decline of over 1,600 persons living on federal lands in the community of Mongmong, representing the closure of a Naval Air Station barracks. The civilian, residential portion of the district grew by slightly more than 800 persons, or almost 20 percent.

The population of the Central district of Sinajana decreased by 36 percent between 1960 and 1980. The municipality was first organized in 1930. Following World War II, the population of Sinajana grew tremendously with the construction of some 400 new homes. Population growth continued until the housing in the area became saturated, reaching 3,862 persons by 1960. Sinajana was the first district to be completely upgraded and modernized under a Federal renewal program in the mid 1970s. The urban renewal project resulted in the relocation of some residents to other areas of the island and the elimination of substandard housing lots. The decline in population between 1960 and 1980 is therefore not likely to continue into the future.

Among the Southern districts, Santa Rita contained the greatest number of persons in 1970 and in 1980. More than 63 percent of its population resided in Navy quarters in 1980, however. Most growth in the South between 1970 and 1980 occurred in Yona, where the majority of commercial and residential housing developments were constructed during the decade. The districts of Agat and Umatac decreased in population. Agat contained no military populations and no obvious development constraints; however, it may be that the district experienced out-migration by the local resident population, while lacking major housing subdivision development to attract new residents. The situation in Umatac has been compounded by the lack of infrastructure development to support new housing subdivisions.

POPULATION ON FEDERALLY OWNED LANDS

The federal government owned and controlled one-third of Guam's land area in 1980, which has not changed since the end of World War II. Military housing on those areas developed independently of the local economy. Defense requirements, the construction of government quarters in new areas, opening or closing of military barracks, and the decision to homeport U.S. Navy ships on Guam are factors that have determined the number and location of active duty military personnel and their dependents, rather than economic conditions and other factors influencing the number and distribution of the civilian population. Census data are available for the population on federal lands for 1970 and 1980, as shown in Table 1.13 The 1960 census gives data on persons living in housing units on federal. lands; however, those living in group quarters are not reported for federal lands.

Table 1.13 Population Distribution by Non-Federal/Federal Land Status and by Urban Designation: 1970 and 1980

Region Election District	1980 Total Persons	1980 Persons in Federal Lands	1980 Percent in Federal Lands	1970 Total Persons	1970 Persons in Federal Lands	1970 Percent in Federal Lands
Total.....	105979	19550	18.4	84996	20316	23.9
Urban.....	41875	14063	33.6	21671	0	0
Percent.....	39.5	71.9	...	25.5	0	...
North.....	47583	8699	44.5	32540	10688	52.6
Urban.....	23208	8430	43.1	8230	0	0
Dededo.....	23644	3554	18.2	10780	1697	8.4
Tamuning.....	13580	69	.4	10218	235	1.2
Yigo.....	10359	5076	26	11542	8756	43.1
Central.....	34526	5065	25.9	31266	4085	20.1
Urban.....	10126	0	0	10829	0	0
Agana.....	896	0	0	2119	0	0
Agana Heights.....	3284	314	1.6	3156	419	2.1
Asan.....	2034	417	2.1	2629	535	2.6
Barrigada.....	7756	1716	8.8	6356	1105	5.4
Chalan Pago-Ordot.....	3120	0	0	2931	0	0
Mangilao.....	6840	856	4.4	3228	0	0
Mongmong-Toto-Maite...	5245	410	2.1	6057	2026	10
Piti.....	2866	1352	6.9	1284	0	0
Sinajana.....	2485	0	0	3506	0	0
South.....	23870	5786	29.6	21190	5543	27.3
Urban.....	8541	5633	28.8	2612	0	0
Agat.....	3999	0	0	4308	38	.2
Inarajan.....	2059	0	0	1897	0	0
Merizo.....	1663	0	0	1529	0	0
Santa Rita.....	9183	5786	29.6	8109	5505	27.1
Talofofo.....	2006	0	0	1935	0	0
Umatac.....	732	0	0	813	0	0
Yona.....	4228	0	0	2599	0	0

Source: U.S. Bureau of the Census PC80-1-B54 Table 4; PC(1)B54 Table 4

Table 1.13 shows that in 1970, 24 percent of the total population of Guam (20,316 persons) lived on federal land areas. Nearly 53 percent of these lived in the North, mostly on Andersen Air Force Base; 20 percent in the Central region, mostly at the Naval Air Station and Naval Regional Medical Center; and 27 percent lived in the South, in Apra Harbor housing. By 1980, the smaller number of persons on federal lands and growth in the civilian population caused the percent of persons living on federal lands to decrease to 18 percent. A larger share resided in Central Guam because of a naval vessel berthed in Piti.

Future military population living in federal land areas will be determined by the Defense Department. The 1990 census will probably see some shift in the geographic distribution of the population to Central Guam caused by the homeporting of additional ships in Apra Harbor since 1980. The local names of federal land areas are shown in Table 1.14.

Table 1.14 Population on Federal Lands: 1980

Region Election District, Federal Land Area	Persons	Percent Of Total	Percent Federal
Total persons	105979	100	...
Persons on federal land areas	19550	18.4	100
North	8699	8.2	44.5
Dededo, Naval Communication Station	3538	3.3	18.1
Dededo, Andersen Air Force Base Northwest Field.	16	0	.1
Tamuning, Harmon Annex	69	.1	.4
Yigo, Andersen Air Force Base	4892	4.6	25
Yigo, Marbo Annex	184	.2	.9
Central	5065	4.8	25.9
Agana Heights, Naval Hospital	314	.3	1.6
Asan, U.S. Naval Hospital	417	.4	2.1
Barrigada, Naval Air Station	1650	1.6	8.4
Barrigada, Naval Communication Station	66	.1	.3
Mangilao, Marbo Annex	856	.8	4.4
Mongmong-Toto-Malte, Naval Air Station	410	.4	2.1
Piti, Vessel	1352	1.3	6.9
South	5786	5.5	29.6
Santa Rita, Apra Harbor Naval Reservation	5633	5.3	28.8
Santa Rita, U.S. Naval Magazine	153	.1	.8

Source: U.S. Bureau of the Census Summary Tape File 1A, Table 1; Bureau of Planning, Government of Guam.

POPULATION DENSITY

Guam's islandwide population density increased over 368 percent between 1940 and 1980, from 107 persons per square mile in 1940 to 507 persons per square mile in 1980, as shown in Table 1.15. Increases in density were not uniform throughout the island. The Northern portion of the island was the most populated region by 1980, but it was still not the most densely settled. Its density increased from 25 persons per square mile in 1940 to 670 in 1980. The Central region was the area with the highest population density on the island, increasing from 324 to 803 persons per square mile by 1980. At one time, the Southern portion of the island was more densely settled than the North, but by 1980, it had the lowest population density, only 251 persons per square mile. Density in the South increased rapidly between 1940 and 1960, but remained fairly constant between 1960 and 1980, reflecting the slower rate of growth in the South during the period of rapid growth in the North.

Table 1.15 Population Distribution and Density by Region: 1940 to 1980

Region	Year 1980	1970	1960	1950	1940	Pcnt Change 1940-80
Total population....	105979	84996	67044	59498	22290	373.8
Area in square miles..	209	209	209	209	209	
Population density....	507	407	321	285	107	
North Population..	47583	32540	18752	16147	1795	2580
Area in square miles..	71	71	71	71	71	
Population density....	670	458	264	227	25	
Central Population.	34526	31266	25479	26495	13946	147.8
Area in square miles..	43	43	43	43	43	
Population density....	803	727	593	616	324	
South Population...	23870	21190	22813	16856	6549	263.8
Area in square miles..	95	95	95	95	95	
Population density....	251	223	240	177	69	

Note: 1980 population in Central Guam includes 1352 persons living on board military vessels.
Source: U.S. Bureau of the Census PC80-1-A54 1980 Table 4; PC(1)-B54 1970 Table 5; P-B54 1950 Table 34, Bureau of Planning, Government of Guam.

URBAN-RURAL DISTRIBUTION

In order to qualify as urban, an area must first meet the criteria of Census Designated Place (CDP). As discussed earlier, a CDP is a generally closely settled center of population without corporate limits. If the CDP has a population of at least 2,500 persons, it is urban. Rural areas are all areas that are not urban.

Although Places have been named by the Census Bureau since 1960, a comparison of urban-rural distribution is not possible. Census definitions of CDP's have not been applied consistently on Guam for each census period. In 1960 and 1970, 16 CDP's were named. In 1980, an additional 16 CDP's were listed (Table 1.16). Many of those CDP's additionally named in 1980 were existing communities in 1970, and some were existing even in 1960. The inclusion of government quarters especially impacts on urban areas, as government quarters comprised over 34 percent of all urban areas in 1980.

Table 1.16 Population of Census Designated Places: 1960 to 1980

Census Designated Place	1980	1970	1960
Total	69106	35079	28567
North	24248	10616	7627
Andersen Air Force Base	4892	...	...
Dededo Village	2524	2386	2247
Finegayan Station	3538	...	...
Marbo Annex	1040	...	...
Tamuning Village	8862	8230	5380
Yigo Village	3392	...	...
Central	27870	16257	13000
Agana Village	896	2119	1642
Agana Heights Village	2970	3156	3210
Agana Station	2060	...	...
Asan Village	726	755	543
Barrigada Village	3127	1549	1729
Barrigada Hts Subdivision	1127	...	...
Chalan Pago Village	1921	...	...
Latte Heights Subdivision	1056	...	...
Maina Village	891	...	...
Malte Village	419	...	...
Mangilao Village	4029	...	...
Mongmong Village	2058	5052	2285
Nimitz Hill Annex	417	...	...
Ordot Village	1199	...	...
Piti Village	737	...	...
Sinajana Village	1879	2621	2861
Toto Village	2358	1005	730
South	16988	8206	7940
Agat Village	2908	2612	2596
Apra Harbor	5633	...	...
Inarajan Village	918	614	761
Merizo Village	1500	731	508
Santa Rita Village	1264	1976	1630
Santa Rosa Subdivision	860	...	...
Talofofo Village	1470	844	947
Umatac Village	487	423	393
Yona Village	1948	1006	1105

Note: Symbol "..." indicates an area was not designated a CDP.
Source: U.S. Bureau of the Census PC80-1-A54 1980 Table 9.

Urban areas on Guam contained 40 percent of the population in 1980 or 41,875 persons (Table 1.17). The North was the most densely urban, with half of its population residing in urban areas. The population of the village of Tamuning was 65 percent urban. The federal land areas of Andersen Air Force Base in Yigo and Finegayan Station in Dededo contributed to the urban density. Nearly 36 percent of the population of Southern Guam resided in urban areas, exclusively in Agat (73

percent urban) and Santa Rita (61 percent urban). In contrast, only 29 percent of the population of Central Guam lived in urban areas, 90 percent in Agana Heights, 40 percent of Barrigada, and 59 percent of Mangilao. The larger percent urban in the South as opposed to Central Guam is the result of military housing in Santa Rita.

Table 1.17. Urban and Rural Residence by Election District: 1980

Region Election District	Number			Percent			Percent
	Total	Urban	Rural	Total	Urban	Rural	Urban
Total.....	105,979	41,875	64,104	100.0	100.0	100.0	39.5
North.....	47,583	23,208	24,375	44.9	55.4	38.0	48.8
Dededo.....	23,644	6,062	17,582	22.3	14.5	27.4	25.6
Tamuning.....	13,580	8,862	4,718	12.8	21.2	7.4	65.3
Yigo.....	10,359	8,284	2,075	9.8	19.8	3.2	80.0
Central.....	34,526	10,126	24,400	32.6	24.2	38.1	29.3
Agana.....	896	0	896	.8	0.0	1.4	0.0
Agana Heights.....	3,284	2,970	314	3.1	7.1	.5	90.4
Asan.....	2,034	0	2,034	1.9	0.0	3.2	0.0
Barrigada.....	7,756	3,127	4,629	7.3	7.5	7.2	40.3
Chalan Pago/Ordot.	3,120	0	3,120	2.9	0.0	4.9	0.0
Mangilao.....	6,840	4,029	2,811	6.5	9.6	4.4	58.9
Mong-Toto-Maite...	5,245	0	5,245	4.9	0.0	8.2	0.0
Piti.....	2,866	0	2,866	2.7	0.0	4.5	0.0
Sinajana.....	2,485	0	2,485	2.3	0.0	3.9	0.0
South.....	23,870	8,541	15,329	22.5	20.4	23.9	35.8
Agat.....	3,999	2,908	1,091	3.8	6.9	1.7	72.7
Inarajan.....	2,059	0	2,059	1.9	0.0	3.2	0.0
Merizo.....	1,663	0	1,663	1.6	0.0	2.6	0.0
Santa Rita.....	9,183	5,633	3,550	8.7	13.5	5.5	61.3
Talofofo.....	2,006	0	2,006	1.9	0.0	3.1	0.0
Umatac.....	732	0	732	.7	0.0	1.1	0.0
Yona.....	4,228	0	4,228	4.0	0.0	6.6	0.0

Source: U.S. Bureau of the Census PC80-1-A54 1980, Table 4.

SUMMARY

For the purpose of population analysis, Guam can be divided into Northern, Southern, and Central areas for census periods between 1940 and 1980. The smaller geographic units of election districts are comparable between 1960 and 1980, having undergone extensive reorganization on several occasions prior to 1960.

Prior to World War II, nearly half of Guam's population lived in the one square mile village of Agana, in Central Guam. Military occupation during and after the war dispersed the indigenous population into other areas of the island. Fractional lot problems in Agana contributed to the difficulty of repopulating the

village after the war. In other parts of the island, families gave up their inherited lands to the U.S. government, which seized over one-third of Guam's land for defense purposes.

The decades 1940 through 1980 thus became a period of rapid growth in the North. New inhabitants included both indigenous residents and new off-island migrants from the United States and Asia. The population of the North increased a remarkable 45,788 persons, from 1,795 in 1940 to 47,583 in 1980. Growth in the other regions did not match the population increase of the North. The Central region, the most populated area in 1940, added 20,580 persons, while the South grew by 17,321 persons.

In the Southern region, the villages of Merizo, Umatac, and Inarajan have retained their rural character, with interior mountainous areas not suited for housing development. Some new development has occurred during the 1980's in the more gently sloping areas of Yona and Talofofo, as improved roads shorten travel time to the commercial areas further North, and generally improved infrastructure opens the area for development.

Of the individual election districts showing decreases and large increase in population between 1960 and 1970, the number of military personnel living on federal lands was often the source of the change. The population living on federal lands should be taken into account in analyzing the growth trends of election districts. Growth caused by the homeporting of military vessels and declines caused by the closure of military barracks are significant in that they do not affect future birth rates, education needs, or housing markets, nor do fluctuations in the number of military personnel necessarily mean that a trend has been established.

In 1980, 40 percent of the population lived in urban places. Of that 40 percent, one-third lived on military reservations. It is probable that more and more places in the civilian portions of Northern and Central Guam will meet the 2,500 and over resident criterion for urban places in the future as the regions become more populated. The military will probably not contribute greatly to the development of additional urban areas until new government quarters are built.

CHAPTER 2
AGE AND SEX CHARACTERISTICS

The age and sex composition of a population provides information necessary to plan for community development and for determining changing social and economic characteristics. Age is the crucial factor for determining various potential populations for schooling, manpower, and voting. Sex is important in understanding social perspective and trends in a community and a population's potential economic activity.

The data on sex were derived from answers to question 3. At the time of field review, most cases in which sex was not reported were resolved by determining the appropriate entry from the person's given name and household relationship. When sex remained blank, it was allocated according to the relationship to the householder and the age and marital status of the person.

The data on age were derived from answers to question 5. Only the information in items 5b and 5c (on month and year of birth) was read into the computer. Answers to questions 5a (on age at last birthday) were used during field review to fill any blanks in question 5c. The age classification was based on the age of the person in completed years as of April 1, 1980. The data on age represent the difference between date of birth and April 1, 1980.

In Chapter 1 we discussed historical statistics for Guam, including age and sex distributions, starting with information from the 1700s. In this, and subsequent chapters, we will be discussing recent statistics for Guam, with a view for the potential use of the data for planning purposes.

The population of Guam has been aging in recent years, partly because of reduced fertility (which will be described in Chapter 5), partly as a result of even more drastic decreases in mortality (as described in Chapter 6), and partly because of the unusual migration situation, with large numbers of relatively "middle-aged" migrants (discussed in detail in Chapter 7).

AGE AND SEX CHARACTERISTICS

The median age of Guam's population in 1980 was 22.2 years, compared to 30.0 in the United States (Table 2.1 and Figure 2.1). The median age is that age which is the exact mid-point of all ages, that is, half the people were older and half the people were younger. The median had decreased slightly from 18.1 in 1920 to 17.9 in 1940, partly due to the influenza epidemic's remains in 1919 having affected fertility, and the whooping cough epidemic in the 1930s. The median increased by 5 years in 1950 because of relatively large numbers of military stationed on Guam. When many of these persons in the Armed Forces were gone in 1960, the median decreased again, and only increased for the 1980 census, probably as a result of decreased fertility and migration.

In most populations, the median for females is higher than for males, but the military on Guam affects those figures as well. In the early decades of the century, before the Armed Forces were on Guam in any

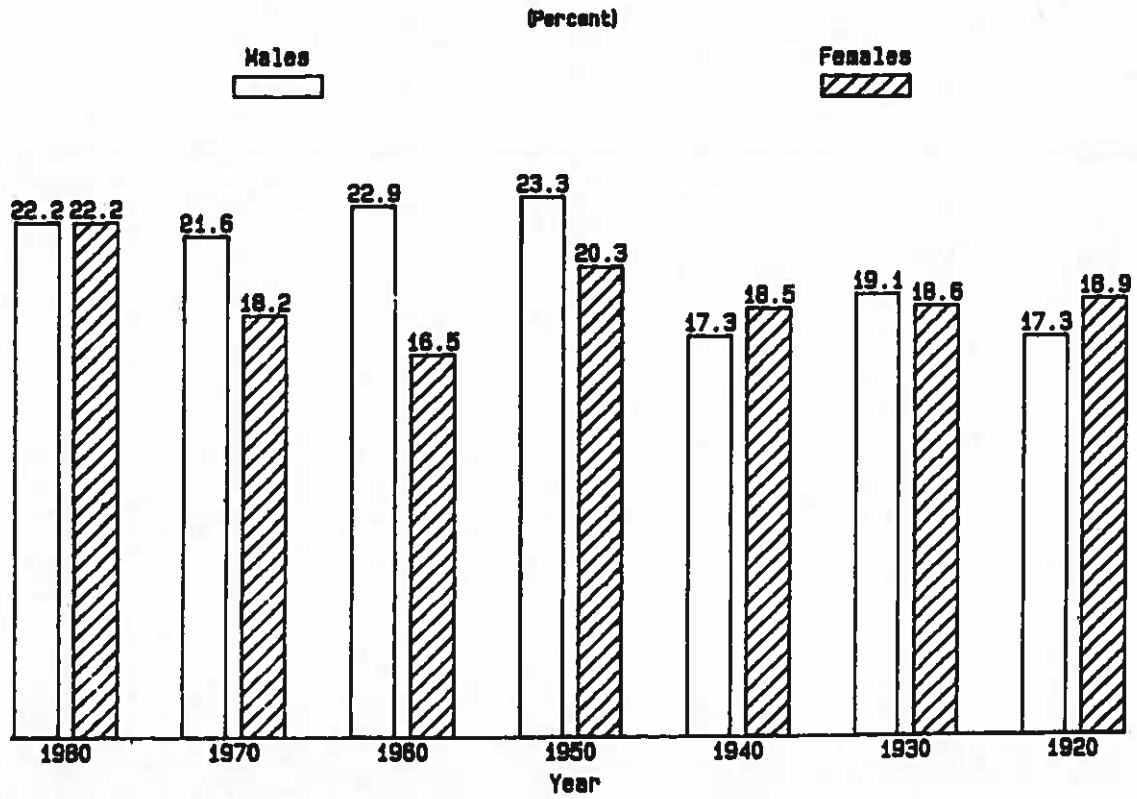
significant numbers, females generally were older than males (with the exception of 1930). In 1950, the median for males was 3 years older than for females because of the Armed Forces and contract workers sent to support the military. Males were more than 6 years older than females in 1960, and 3 years older in 1970. Partly because of the reduction in the military and a change in their age and sex structure, and because of the increase in the local populations, by 1980 the median age for males and females was the same.

Table 2.1. Median Age: 1920 to 1980

Census Year	Total	Males	Females
1980	22.2	22.2	22.2
1970	20.4	21.6	18.2
1960	20.8	22.9	16.5
1950	22.8	23.3	20.3
1940	17.9	17.3	18.5
1930	18.8	19.1	18.6
1920	18.1	17.3	18.9

Source: U.S. Bureau of the Census Decennial Reports

Figure 2.1 Median Age: 1920 to 1980



The median age of the population by region varied over time (Table 2.2). In 1930, the Central region had the lowest median age (16.4 years), followed by the North (17.7 years); by 1950, the Central region had the highest median age (23.3 years), with the North second highest (23.2 years). These fluctuations between regions could be a result of regional migration and the presence of the military in certain regions.

Table 2.2 Median Age by Region: 1930 to 1980

Region	Year 1980	1970	1960	1950	1940	1930
Guam...	22.2	20.4	20.8	22.8	17.9	18.8
North.....	22.9	22.1	21.6	23.2	18.3	17.7
Central.....	22.5	20.0	18.9	23.3	17.7	16.4
South.....	20.5	18.7	23.4	21.9	18.3	18.1

Source: Bureau of the Census Decennial Reports

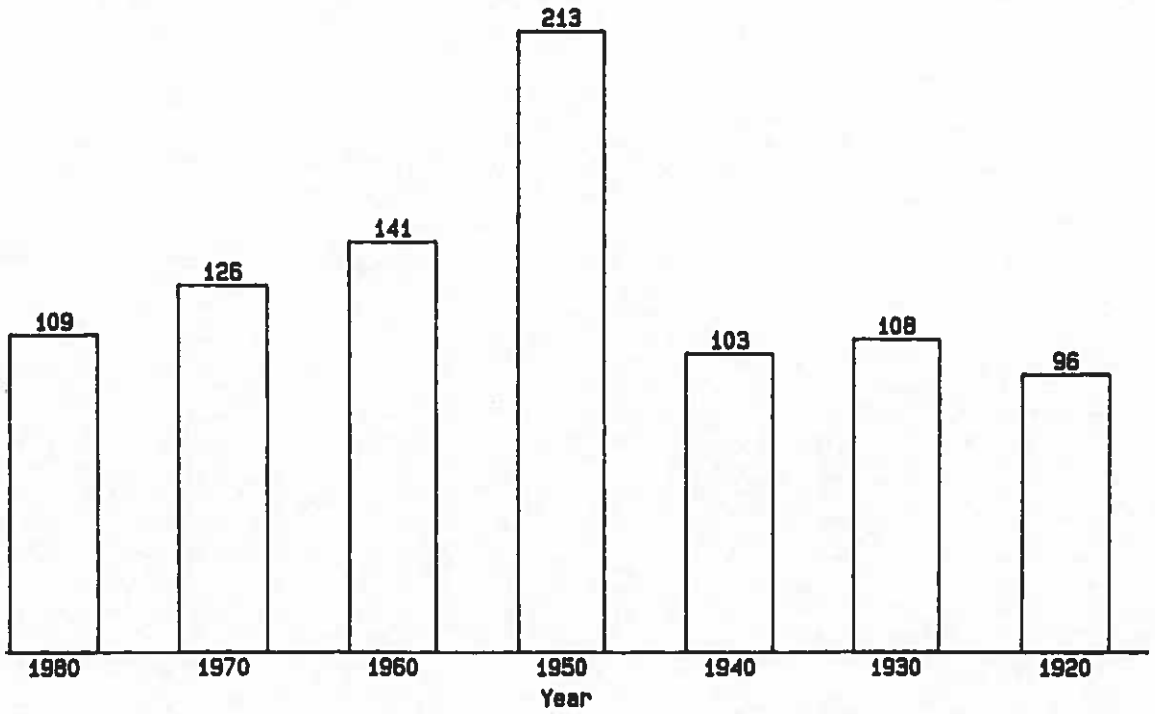
The effect of the Armed Forces on the sex distribution is more clearly seen in Table 2.3 (and Figure 2.2). As noted previously, in most populations there are more females than males. In fact, on Guam in 1920, there were 295 more females than males, but that was the last census to show a surplus of females. The sex distributions in 1930 and 1940 were not abnormal, but by 1950, a change had occurred. In 1950 there were 21,472 more males than females, and the number of males per 100 females doubled, from 103 in 1940 to 213 in 1950. In 1950, there were more than 2 males for every female on the island. With decreased military activity, the number of males per 100 females decreased, until it reached 109 in 1980, more than any State except Alaska, which had a surplus of males for other reasons.

Table 2.3. Males per 100 Females: 1920 to 1980

Census Year	Males	Females	Surplus of Males	Males per 100 Females
1980	55,321	50,658	4,663	109.2
1970	47,362	37,634	9,728	125.8
1960	39,211	27,833	11,378	140.9
1950	40,485	19,013	21,472	212.9
1940	11,294	10,983	311	102.8
1930	9,630	8,879	751	108.5
1920	6,490	6,785	-295	95.7

Source: U.S. Bureau of the Census Decennial Reports

Figure 2.2 Males per 100 Females: 1920 to 1980



The distribution by age has changed somewhat since 1940, the first decennial census to display 5 years age groups for ages up to 75 years (Table 2.4). Between 1940 and 1950, the percentages of persons under 5 decreased, probably partly because of residual reduced fertility following the war, but primarily because of increased migration of Armed Service personnel and contract workers. The change in the 5 to 14 year olds was even greater, decreasing by 7 percentage points for the 5 to 9 years olds and 6 percentage points for the 10 to 14 year olds. Much of this decrease must be attributed to many women not having children during the war years.

This group which would normally have created an unusual effect in the age distribution over time, much as the baby boomers has created a bulge which is gradually working its way through the age distribution in the United States, cannot be seen for later censuses because of the great influx of military personnel and contract workers, starting in the 1940s. Hence, although this decrease is seen for 5 to 14 year olds in 1950, by 1960 when this group was 15 to 24, the number of Armed Forces personnel in this same age group was so great, that the Natives have to be disaggregated to see the affects on that segment of the population. (We have disaggregated the population by ethnicity in Chapter 8).

Table 2.4. Population by Age and Sex: 1940 to 1980

Age Group	Numbers					Percent				
	1980	1970	1960	1950	1940	1980	1970	1960	1950	1940
Total	105,979	84,996	67,044	59,498	22,290	100.0	100.0	100.0	100.0	100.0
0 to 4	13,002	11,635	10,824	7,568	3,746	12.3	13.7	16.1	12.7	16.8
5 to 9	12,632	11,762	9,164	4,453	3,261	11.9	13.8	13.7	7.5	14.6
10 to 14	11,338	10,304	7,254	4,084	2,827	10.7	12.1	10.8	6.9	12.7
15 to 19	10,993	8,049	4,994	7,162	2,228	10.4	9.5	7.4	12.0	10.0
20 to 24	11,108	10,270	6,744	11,378	1,870	10.5	12.1	10.1	19.1	8.4
25 to 29	10,324	6,406	5,572	7,275	1,719	9.7	7.5	8.3	12.2	7.7
30 to 34	9,289	6,171	6,617	5,452	1,455	8.8	7.3	9.9	9.2	6.5
35 to 39	6,246	5,474	5,151	4,044	1,203	5.9	6.4	7.7	6.8	5.4
40 to 44	5,049	4,792	3,403	2,761	946	4.8	5.6	5.1	4.6	4.2
45 to 49	4,189	3,530	2,631	2,014	812	4.0	4.2	3.9	3.4	3.6
50 to 54	3,983	2,305	1,736	1,216	599	3.8	2.7	2.6	2.0	2.7
55 to 59	2,914	1,748	1,171	810	501	2.7	2.1	1.7	1.4	2.2
60 to 64	1,927	1,070	695	483	435	1.8	1.3	1.0	.8	2.0
65 to 69	1,418	689	478	346	291	1.3	.8	.7	.6	1.3
70 to 74	809	351	271	204	210	.8	.4	.4	.3	.9
75 + ...	758	440	339	248	174	.7	.5	.5	.4	.8

Note: 1940 includes 13 persons of unknown age.
Source: U.S. Bureau of the Census Decennial Reports

The military influence is clearly seen in the 1950 census results, since almost 1 in every 5 persons on Guam was between 20 and 24 in that year, up from only 1 in 12 in 1940. The proportion decreased to about 1 in 10 in 1960 and subsequent years. About 1 in every 8 persons on Guam in 1950 was between 15 and 19, and about the same proportion were between 25 and 29. Altogether about 43 percent of the population in 1950 was between 15 and 29.

About 16 percent of the 1960 population were under 5, and another 14 percent were 5 to 9, showing the effects of the baby boom on Guam. By 1970, fertility had begun to decrease, with only 14 percent of the population less than 5 years old, and by 1980 the decrease continued, to 12 percent of the population.

The proportion of the population which was elderly remained low throughout the period, partly because of the influence of the presence of the military (which decreased the percentage of youth as well as elderly), and partly because the birth rate was high, and continued to be fairly high even in 1980 (although very low compared to the developing world). Just over 3 percent of the population in 1940 was 65 years and over. The proportion of elderly decreased to between 1 and 2 percent from 1950 to 1970, and increased to 3 percent again in 1980. As will be shown in Chapter 8 on ethnicity, most of the elderly were Chamorro, so that as the rest of the population ages, the percentage of elderly will increase, as will the need to provide housing and other services for these persons. Traditionally, Chamorro culture has made provisions for its elderly, with specific roles within the extended family context. As the society has

"Westernized" many of these roles have changed, resulting in the likelihood of new mechanisms being needed to care for the elderly, particularly as non-Chamorros become part of this group.

DEPENDENCY RATIO

The dependency ratio is derived by dividing the sum of persons under 15 (the pre-labor force youth) and the elderly (those over 64), by the persons generally included in the potential labor force (those 15 to 64), and multiplying by 100. A dependency ratio of 100 would mean that there is exactly one dependent for each potential worker; a higher number would mean that there are more dependents than workers, and a lower number means that there are more workers than dependents.

In 1940, before the military "invasion", the population was closest to a dependency ratio of 100, with a figure of 89 (89 dependents for every 100 potential workers) (Table 2.5). The dependency ratio in 1950 was only 40, less than half of the ratio for 1940, showing both greatly reduced fertility in the war years and the huge influx of military personnel in the late 1940s. This value is unlikely to occur in any "natural" environment, and is due to the large numbers of young and middle-aged adults on island in connection with the Armed Forces. This kind of figure makes analysis of the dependency ratios fairly useless since some segments of the population were still living at subsistence levels, and other segments were living off an artificially constructed economy, including PXs and other imported goods and materials.

The dependency ratios in 1960, 1970, and 1980, continued to show the influence of the military. After a jump in 1960 because of proportionally fewer military on island however, the ratio continued to decrease to 60 in 1980. The decrease in the 20 years before the 1980 census was due both to increased immigration of aliens in the middle years (as well as Statesiders), and decreased fertility (which was far greater than the slight increase in the elderly population.)

Table 2.5. Dependency Ratios: 1940 to 1980

Age Group	1980	1970	1960	1950	1940
Total.....	105,979	84,996	67,044	59,498	22,277[1]
0 to 14.....	36,972	33,701	27,242	16,105	9,834
15 to 64.....	66,022	49,815	38,714	42,595	11,768
65 +.....	2,985	1,480	1,088	798	675
Dependency Ratio.....	60.5	70.6	73.2	39.7	89.3

1) Excludes 13 persons of unknown age.
Source: U.S. Bureau of the Census Decennial Reports

The male population has shown the fluctuations in the age distribution more dramatically than the female population, because most of the early military personnel were males (Table 2.6). Again, the age distribution for

1940 was fairly "normal" because most of the residents were Chamorros and were living without military activity. In 1950, all of this had changed.

In 1950, almost 1 in every 4 males was between 20 and 24, another 14 percent were between 15 and 19, and another 13 percent were between 25 and 29. Hence, more than half the males were in this 15 year age range. Most of these males were military personnel. The proportion of males in this age range has remained large throughout the rest of the period because of continued military activity on island.

Table 2.6. Males by Age and Sex: 1940 to 1980

Age Group	Numbers					Percent				
	1980	1970	1960	1950	1940	1980	1970	1960	1950	1940
Males.	55,321	47,362	39,211	40,485	11,300	100.0	100.0	100.0	100.0	100.0
0 to 4.	6,620	5,962	5,614	3,885	1,945	12.0	12.6	14.3	9.6	17.2
5 to 9.	6,458	6,054	4,593	2,286	1,734	11.7	12.8	11.7	5.6	15.4
10 to 14.	5,835	5,362	3,685	2,129	1,463	10.5	11.3	9.4	5.3	13.0
15 to 19.	5,849	4,148	3,053	5,583	1,092	10.6	8.8	7.8	13.8	9.7
20 to 24.	6,019	6,642	4,527	9,613	885	10.9	14.0	11.5	23.7	7.8
25 to 29.	5,194	3,569	3,386	5,231	897	9.4	7.5	8.6	12.9	7.9
30 to 34.	4,854	3,538	4,526	3,812	748	8.8	7.5	11.5	9.4	6.6
35 to 39.	3,386	3,267	3,440	2,850	621	6.1	6.9	8.8	7.0	5.5
40 to 44.	2,650	3,038	2,172	1,859	504	4.8	6.4	5.5	4.6	4.5
45 to 49.	2,171	2,192	1,684	1,380	402	3.9	4.6	4.3	3.4	3.6
50 to 54.	2,238	1,334	1,036	793	300	4.0	2.8	2.6	2.0	2.7
55 to 59.	1,634	1,015	642	482	231	3.0	2.1	1.6	1.2	2.0
60 to 64.	1,008	577	367	243	199	1.8	1.2	.9	.6	1.8
65 to 69.	729	324	223	157	119	1.3	.7	.6	.4	1.1
70 to 74.	392	160	117	84	83	.7	.3	.3	.2	.7
75 + ...	284	180	146	98	71	.5	.4	.4	.2	.6

Source: U.S. Bureau of the Census Decennial Reports

The female population on Guam has not seen the tremendous fluctuations the male age distribution experienced (Table 2.7). Some of this anomaly in the 15 to 29 years old females in the 1950 census can be attributed to wives who accompanied their husbands for military duty on island.

The increase in percentage of females in the 0 to 4 age group between 1940 and 1950 (from 16 to 19 percent) probably reflects real growth in this age group, and, if the military were excluded from the male distribution, males also would probably exhibit the same pattern. The late 1940s saw the beginning of the baby boom on Guam as elsewhere, so that the high rates of 0 to 4 years olds in 1950 and 1960 reflect this higher fertility; almost 1 in every 5 females in those two censuses were less than 5 years old. After the 1960 census, the percentage of these females decreased, partly as a result of the baby bust, and partly because of increased migration of aliens and persons from the States (including increased numbers of female military personnel).

The proportion of female elderly has remained low, but, once again, this may change as the general population ages.

Table 2.7. Females by Age and Sex: 1940 to 1980

Age Group	Numbers					Percent				
	1980	1970	1960	1950	1940	1980	1970	1960	1950	1940
Fmles.	50,658	37,634	27,833	19,013	10,990	100.0	100.0	100.0	100.0	100.0
0 to 4.	6,382	5,673	5,210	3,683	1,801	12.6	15.1	18.7	19.4	16.4
5 to 9.	6,174	5,708	4,571	2,167	1,527	12.2	15.2	16.4	11.4	13.9
10 to 14.	5,503	4,942	3,569	1,955	1,364	10.9	13.1	12.8	10.3	12.4
15 to 19.	5,144	3,901	1,941	1,579	1,136	10.2	10.4	7.0	8.3	10.3
20 to 24.	5,089	3,628	2,217	1,765	985	10.0	9.6	8.0	9.3	9.0
25 to 29.	5,130	2,837	2,186	2,044	822	10.1	7.5	7.9	10.8	7.5
30 to 34.	4,435	2,633	2,091	1,640	707	8.8	7.0	7.5	8.6	6.4
35 to 39.	2,860	2,207	1,71[illegible]	1,194	582	5.6	5.9	6.1	6.3	5.3
40 to 44.	2,399	1,754	1,231	902	442	4.7	4.7	4.4	4.7	4.0
45 to 49.	2,018	1,338	947	634	410	4.0	3.6	3.4	3.3	3.7
50 to 54.	1,745	971	700	423	299	3.4	2.6	2.5	2.2	2.7
55 to 59.	1,280	733	529	328	270	2.5	1.9	1.9	1.7	2.5
60 to 64.	919	493	328	240	236	1.8	1.3	1.2	1.3	2.1
65 to 69.	689	365	255	189	172	1.4	1.0	.9	1.0	1.6
70 to 74.	417	191	154	120	127	.8	.5	.6	.6	1.2
75 + ...	474	260	193	150	103	.9	.7	.7	.8	.9

Source: U.S. Bureau of the Census Decennial Reports

Figure 2.3 Age and Sex Distribution: 1940

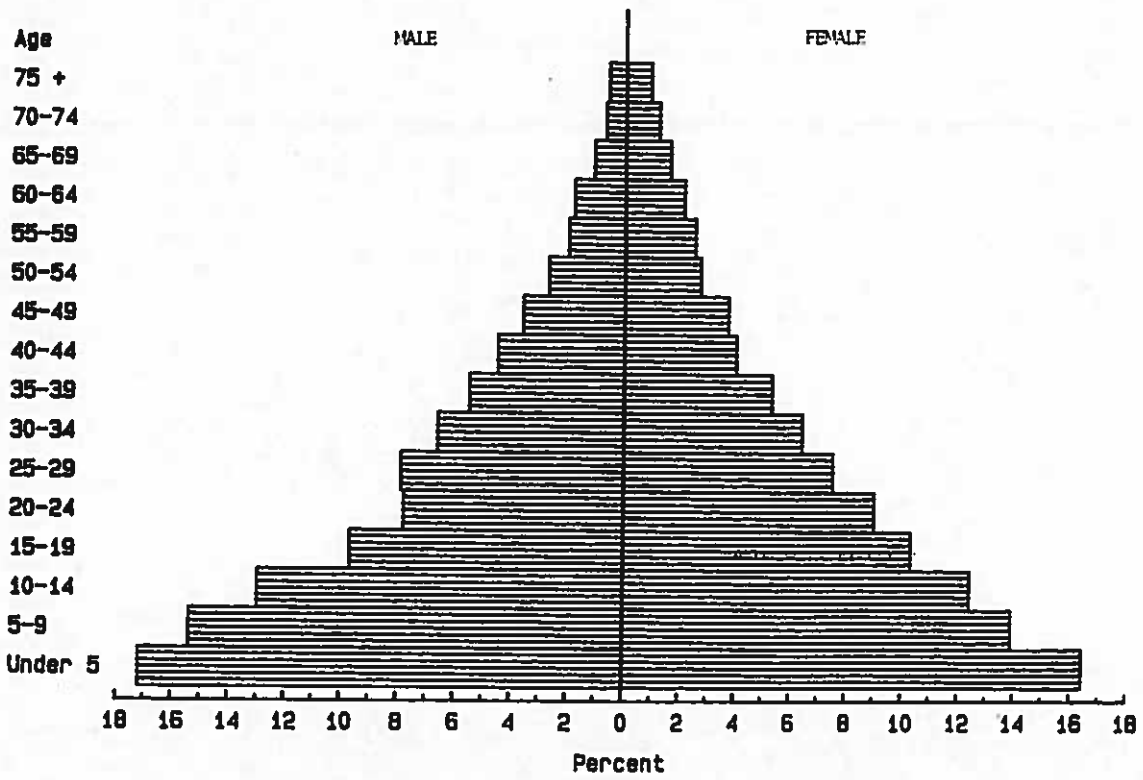


Figure 2.4 Age and Sex Distribution: 1950

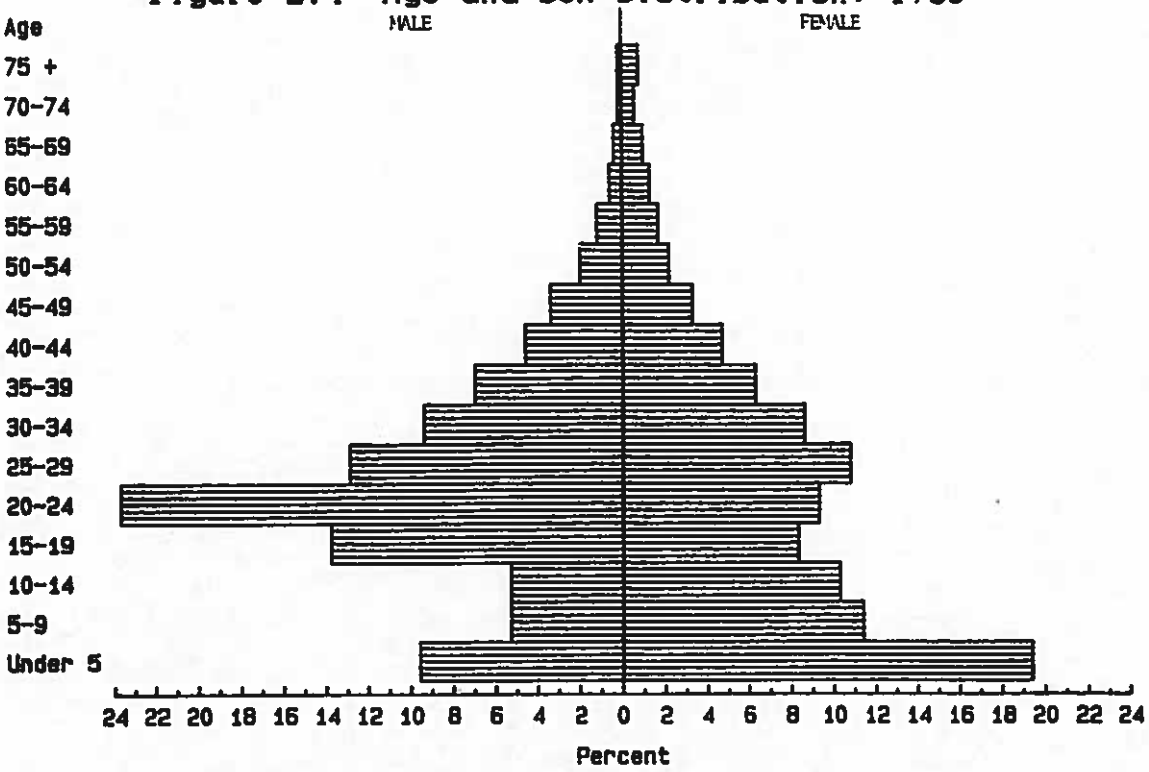


Figure 2.5 Age and Sex Distribution: 1960

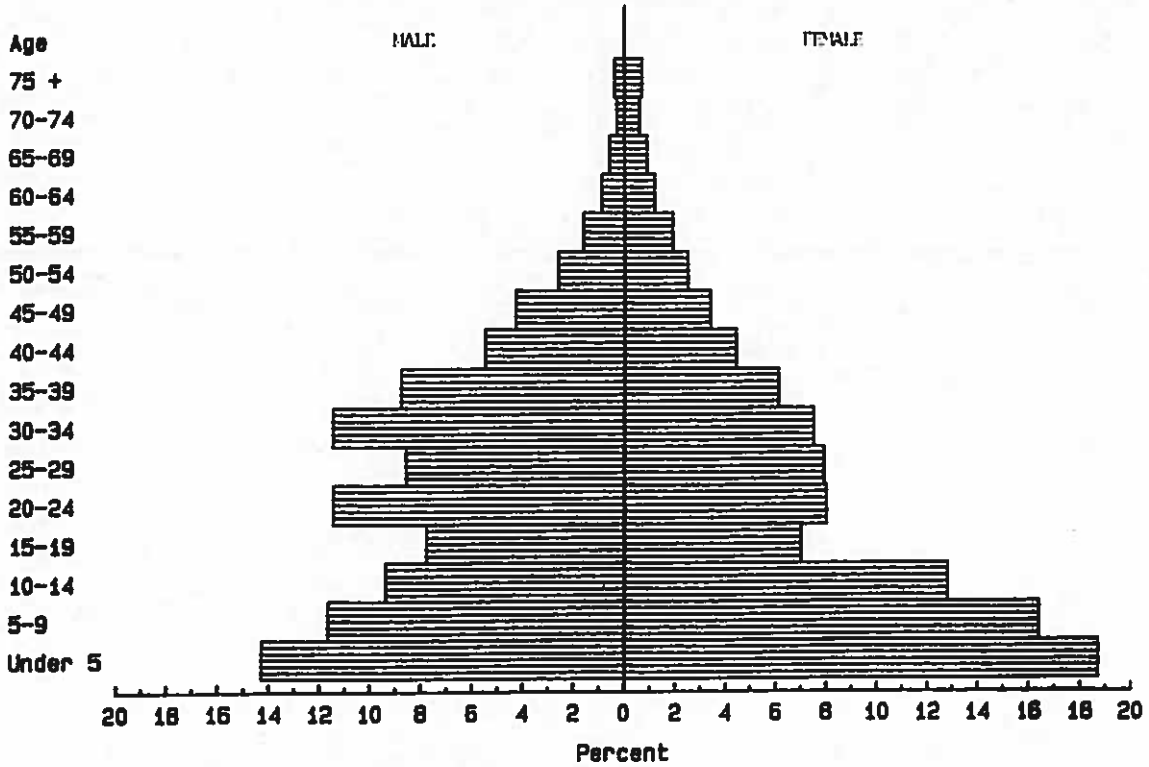


Figure 2.6 Age and Sex Distribution: 1970

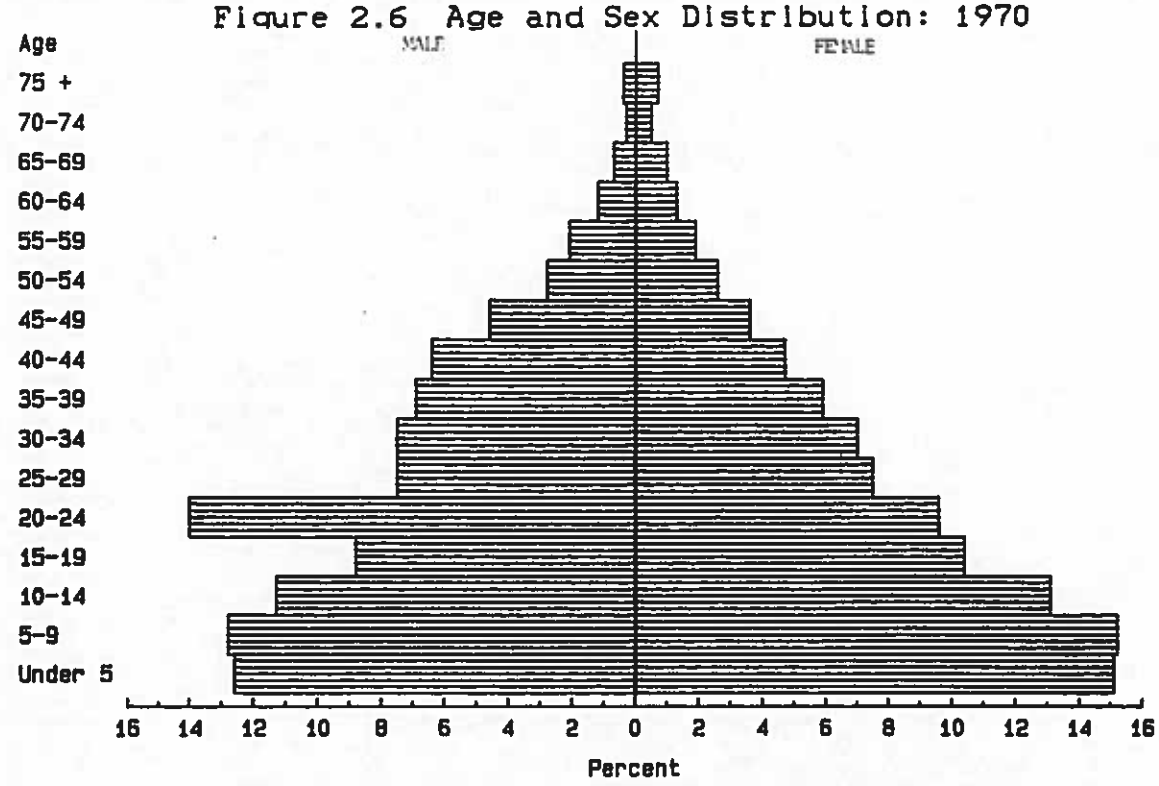
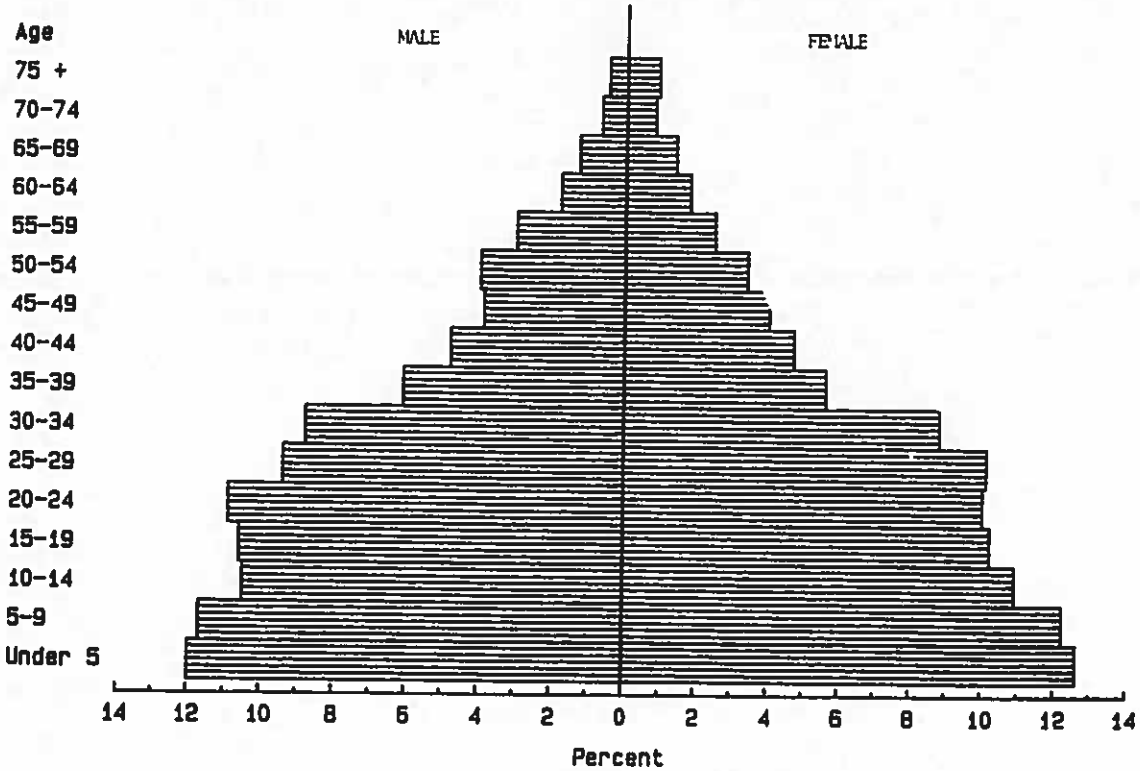


Figure 2.7 Age and Sex Distribution: 1980



SEX RATIO

As noted earlier, the number of males per 100 females increased from 103 to 213 between 1940 and 1950 because of the influx of military personnel, and then decreased first to 141 in 1960, then to 126 in 1970, and 109 in 1980 (Table 2.8 and Figure 2.8). As would be expected, the proportions for young ages were closer to even numbers of males and females (although we do not expect a figure of 100, because, world-wide, there are about 106 males born for every 100 females).

The coming of the military to Guam also affected the proportion of males and females in the military ages. In 1950, for example, there were 354 males for every 100 females aged 15 to 19, 545 males per 100 females aged 20 to 24, 256 for those 25 to 29, with diminishing proportions after that. As time has gone by, these proportions have decreased, but in some ages have remained high, especially compared with similar populations in the States and elsewhere. By 1960, only 20 to 24 and 30 to 39 year olds had more than 2 males for each female, and none of the age groups in 1960 had this disparity (although there were 183 males 20 to 24 years old for every 100 females in that age group).

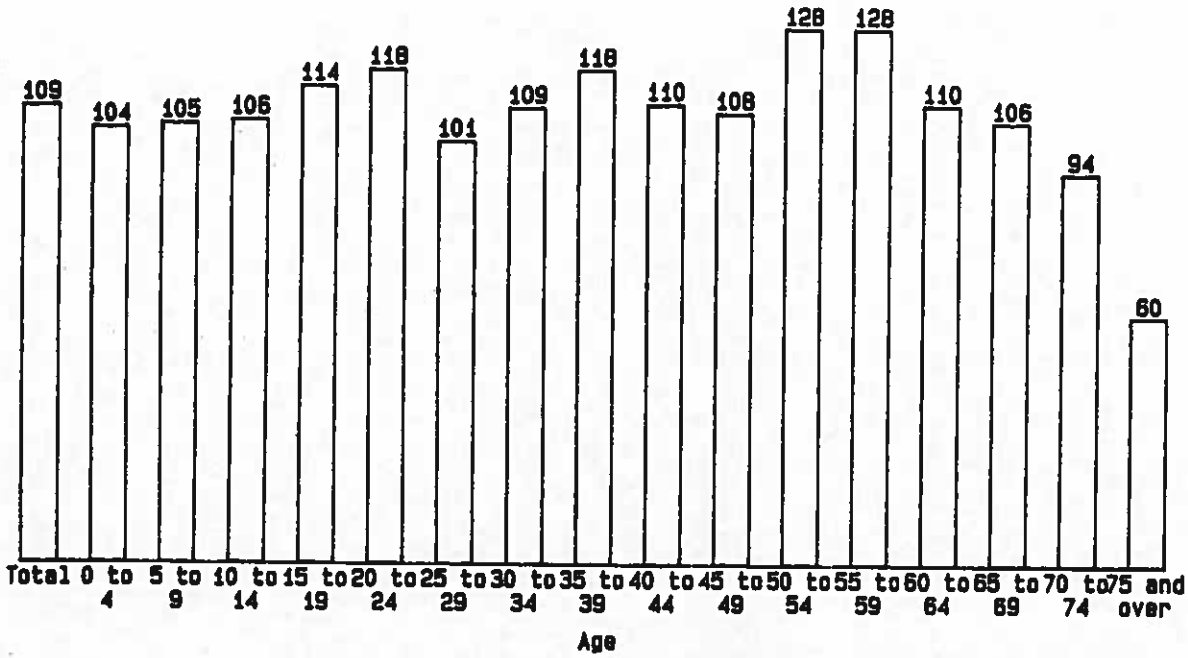
There were more females than males 65 years and over (except for those 65 to 69 in 1980) for each of the censuses, showing increased male mortality in the older age groups.

Table 2.8. Males per 100 Females by Age: 1940 to 1980

	Surplus of Males					Males Per 100 Females				
Age Group	1980	1970	1960	1950	1940	1980	1970	1960	1950	1940
Total.	4663	9728	11378	21472	310	109.2	125.8	140.9	212.9	102.8
0 to 4.	238	289	404	202	144	103.7	105.1	107.8	105.5	108.0
5 to 9.	284	346	22	119	207	104.6	106.1	100.5	105.5	113.6
10 to 14.	332	420	116	174	99	106.0	108.5	103.3	108.9	107.3
15 to 19.	705	247	1112	4004	-44	113.7	106.3	157.3	353.6	96.1
20 to 24.	930	3014	2310	7848	-100	118.3	183.1	204.2	544.6	89.8
25 to 29.	64	732	1200	3187	75	101.2	125.8	154.9	255.9	109.1
30 to 34.	419	905	2435	2172	41	109.4	134.4	216.5	232.4	105.8
35 to 39.	526	1060	1729	1656	39	118.4	148.0	201.1	238.7	106.7
40 to 44.	251	1284	941	957	62	110.5	173.2	176.4	206.1	114.0
45 to 49.	153	854	737	746	-8	107.6	163.8	177.8	217.7	98.0
50 to 54.	493	363	336	370	1	128.3	137.4	148.0	187.5	100.3
55 to 59.	354	282	113	154	-39	127.7	138.5	121.4	147.0	85.6
60 to 64.	89	84	39	3	-37	109.7	117.0	111.9	101.2	84.3
65 to 69.	40	-41	-32	-32	-53	105.8	88.8	87.5	83.1	69.2
70 to 74.	-25	-31	-37	-36	-44	94.0	83.8	76.0	70.0	65.4
75 + ...	-190	-80	-47	-52	-32	59.9	69.2	75.6	65.3	68.9

Source: U.S. Bureau of the Census Decennial Reports

Figure 2.8 Male/Female Ratio by Age: 1980



AGE DISTRIBUTION

Table 2.9 shows the distribution by age for the election districts on Guam. The overall median age for Guam was 22.2 years, with the North and Central regions having higher median ages, and the South being younger.

Umatac had the lowest median age at 17.4 years, followed by Inarajan (17.9 years), and Talofofo (18.2). Other villages with low median ages were Merizo (18.5), Yona (18.6), and Chalan Pago-Ordot (19.0); only the last village was not in the Southern region. The percentage of persons less than 18 years old also reflects the relative youth in these villages. Overall, 41 percent of Guam's population was less than 18 years old. Central and Northern regions had slightly smaller percentages of persons in this age group (40 percent for each), compared to the 45 percent for South. Both Umatac and Inarajan had more than half their populations under 18 years old, the result of high fertility, and probably less migration of young adults to these southern villages.

About 3 percent of the population was 65 years or older. More than 6 percent of those living in Agana were 65 years or older, as were more than 5 percent of those in Agana Heights. Sinajana, Agat, and Inarajan each had slightly less than 5 percent of their populations being elderly.

These data seem to show that the South remains somewhat more traditional than the Central and Northern regions, with higher fertility, and less military and other in-migration. The villages in the extreme South seem even more traditional in age structure than the others.

Table 2.9. Age by Region and Election District: 1980

Election District	Population	Number			Percent			Median Age
		Under 18 yrs	18 to 64 yrs	65 + years	Under 18 yrs	18 to 64 yrs	65 + years	
Total.....	105979	43604	59390	2985	41.1	56.1	2.8	22.2
North.....	47583	19241	27156	1198	40.4	57.1	2.5	22.9
Dededo.....	23644	10640	12437	567	45.0	52.6	2.4	20.9
Tamuning.....	13580	4549	8555	475	33.5	63.0	3.5	26.4
Yigo.....	10359	4040	6164	155	39.0	59.5	1.5	22.2
Central.....	34526	13633	19765	1128	39.5	57.2	3.3	22.5
Agana.....	896	275	566	55	30.7	63.2	6.1	27.4
Agana Heights.....	3284	1261	1855	167	38.4	56.5	5.1	23.7
Asan.....	2034	775	1170	92	38.1	57.5	4.5	23.3
Barrigada.....	7756	3017	4506	233	38.9	58.1	3.0	22.2
Chalan Pago-Ordot...	3120	1498	1507	115	48.0	48.3	3.7	19.0
Mangilao.....	6840	2859	3837	144	41.8	56.1	2.1	22.3
Mongmong-Toto-Maite.	5245	2229	2874	142	42.5	54.8	2.7	21.6
Piti.....	2866	616	2190	60	21.5	76.4	2.1	23.6
Sinajana.....	2485	1103	1260	122	44.4	50.7	4.9	20.6
South.....	23870	10728	12481	659	44.9	52.3	2.8	20.5
Agat.....	3999	1848	1964	188	46.2	49.1	4.7	20.2
Inarajan.....	2059	1038	924	97	50.4	44.9	4.7	17.9
Merizo.....	1663	812	790	62	48.8	47.5	3.7	18.5
Santa Rita.....	9183	3600	5446	138	39.2	59.3	1.5	22.3
Talofofo.....	2006	991	953	62	49.4	47.5	3.1	18.2
Umatac.....	732	378	342	12	51.6	46.7	1.6	17.4
Yona.....	4228	2063	2063	101	48.8	48.8	2.4	18.6

Source: U.S. Bureau of the Census PC80-1-B54, Table 14.

MILITARY AND CIVILIAN POPULATIONS

The special tabulations developed to disaggregate military households from civilian households provide data on age and sex of the civilian population, as well as those households having one or more military personnel. Persons on active-duty military status are called "military persons", households with one or more military persons residing there are "military households".

Altogether, there were 83,226 persons (78 percent) living in households or group quarters which contained only civilians. Of these, 42,056 (51 percent) were males, compared to 58 percent of males in military households or in group quarters (Table 2.10).

The median ages for the two populations did not differ significantly, but the distributions were significantly different. Although the median for the whole population was 22.3 years, the median for civilians was slightly

less (21.8 years) and the median for the military was slightly more (22.9 years). The median for males in the military was about a year older than for females, while the median for female civilians was about a half year older than for males.

Once the military are disaggregated from the rest of the population, the civilian age and sex distribution looks much more "normal". Military personnel seem to have higher fertility than civilians, since 14 percent were children less than 5 years old in military households, compared to 12 percent in civilian households. On the other hand, because they are in the military, more than 1 in 5 of all military persons were 20 to 24 compared to only 8 percent of the civilians. The percentage of military in the 25 to 29 year age group was double that of the civilians. More than 12 percent of the military population was 30 to 34 years old compared to only 8 percent of the civilian population.

On the other hand, slightly larger proportions of persons in the 35 to 44 year old age group were civilian than were military, partially because of large numbers of immigrants in this age group (see Chapters 7 and 8). And, larger proportions of persons older than 44 were civilian than were military. More than 9 percent of the civilian population was 45 to 54 years old, compared to less than 2 percent of the military population. And only about 1 percent of the military population was 55 years old and over, compared to more than 9 percent of the civilian population.

Table 2.10. Age and Sex by Military Household Status: 1980

	Total			Civilians			Military		
Age Group	Total	Males	Fmles	Total	Males	Fmles	Total	Males	Fmles
Total....	105979	55321	50658	83226	42056	41170	22753	13265	9488
Percent.	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
0 to 4....	12.3	12.0	12.6	11.7	11.9	11.6	14.2	12.1	17.1
5 to 9....	11.9	11.7	12.2	12.4	12.7	12.2	10.1	8.5	12.3
10 to 14....	10.7	10.5	10.9	12.0	12.3	11.8	5.8	5.0	7.0
15 to 19....	10.4	10.6	10.2	11.1	11.1	11.1	7.7	8.8	6.1
20 to 24....	10.5	10.9	10.0	7.5	6.6	8.5	21.3	24.4	16.9
25 to 29....	9.7	9.4	10.1	8.0	7.2	8.7	16.3	16.3	16.3
30 to 34....	8.8	8.8	8.8	7.8	7.6	7.9	12.4	12.4	12.4
35 to 44....	10.7	10.9	10.4	11.0	11.1	10.9	9.4	10.3	8.3
45 to 54....	7.7	8.0	7.4	9.4	10.0	8.7	1.7	1.5	2.0
55 to 59....	2.7	3.0	2.5	3.4	3.8	3.0	.4	.3	.5
60 to 64....	1.8	1.8	1.8	2.3	2.3	2.2	.2	.2	.3
65 and over.	2.8	2.5	3.1	3.4	3.2	3.7	.5	.3	.8
Median....	22.3	22.4	22.1	21.8	21.5	22.0	22.9	23.2	22.2

Source: U.S. Bureau of the Census PC80-1-C/D54, Table 19; Unpublished tabulations.

The percentage distribution by age group also shows differences (Table 2.11). Altogether females were 48 percent of the population on Guam in 1980; while females constituted almost half of the civilian population, they

were only about 4 in every 10 of the military population (and, of course, many of these were dependents). Among the civilians, in the young ages females were just slightly less than half of all persons and were more than half of those 20 to 35 years old. For ages 35 to 64, however, there were more males than females in the civilian population, probably because of the selective nature of international migration, with larger numbers of male immigrants than females. For the elderly, females were a larger percentage of the civilian population than were males.

The military population showed a very different pattern. More than 2 of every 3 military persons between 15 and 24 were male, and while the proportions decreased to below 6 in 10 for persons 25 to 34, more than 6 in 10 of those 35 to 44 were males. More than half of the persons 55 years and over in military households, however, were female.

There is some evidence from these data that there is a discrepancy between the military and civilian data for persons 20 to 29 which show surpluses of civilian females. Military males who were on ships and left their families behind would have been recorded as civilian since no one in the household would have been identified as military; hence, this surplus of civilian females in the age group was probably at least partially explained by the fact that many of these women were married to military personnel who were on ships and left their families behind. (Their children are less easily disaggregated from all children.)

Table 2.11. Percent Age and Sex by Military Household Status: 1980

	Total			Civilians			Military		
Age Group	Total	Males	Fmles	Total	Males	Fmles	Total	Males	Fmles
Total....	100.0	52.2	47.8	100.0	50.5	49.5	100.0	58.3	41.7
0 to 4....	100.0	50.9	49.1	100.0	51.3	48.7	100.0	49.7	50.3
5 to 9....	100.0	51.1	48.9	100.0	51.6	48.4	100.0	49.1	50.9
10 to 14....	100.0	51.5	48.5	100.0	51.7	48.3	100.0	50.0	50.0
15 to 19....	100.0	53.2	46.8	100.0	50.6	49.4	100.0	66.8	33.2
20 to 24....	100.0	54.2	45.8	100.0	44.4	55.6	100.0	66.9	33.1
25 to 29....	100.0	50.3	49.7	100.0	45.9	54.1	100.0	58.2	41.8
30 to 34....	100.0	52.3	47.7	100.0	49.6	50.4	100.0	58.3	41.7
35 to 44....	100.0	53.4	46.6	100.0	51.1	48.9	100.0	63.4	36.6
45 to 54....	100.0	54.0	46.0	100.0	54.1	45.9	100.0	50.9	49.1
55 to 59....	100.0	56.1	43.9	100.0	56.4	43.6	100.0	47.3	52.7
60 to 64....	100.0	52.3	47.7	100.0	52.5	47.5	100.0	44.4	55.6
65 and over.	100.0	47.1	52.9	100.0	47.5	52.5	100.0	37.4	62.6

Source: U.S. Bureau of the Census PC80-1-C/D54, Table 19; Unpublished tabulations.

Table 2.12 further disaggregates the military data into persons who were actually in the military in 1980 and those who were civilians but living in military households. There were 10,125 persons (10 percent of Guam's total population) on active-duty status in the military in 1980: 9,224 males and 901 females. The median age of these persons was 26.5

years, more than 4 years more than for the rest of the population in military households (because so many of the other people in military households were children), and about 4 years more than for the general population of Guam.

Military persons constituted more than half of all persons 20 to 24 years old (67 percent of the males and 33 percent of the females in that age group), and were 49 percent of the persons 25 to 29 years old. Of course, for planning and other policy purposes, military households and families, and not only the military persons must be considered, so the analysis in this report for military-civilian differences focuses on the whole household, and not merely the military person himself or herself.

Table 2.12. Median Age by Sex and Military Status: 1980

	Total		Civilians		Military				
					Households		Persons		
Age Group	Males	Fmles	Males	Fmles	Males	Fmles	Males	Fmles	Total
Total....	55321	50658	42056	41170	13265	9488	9224	901	10125
0 to 4....	6620	6382	5017	4758	1603	1624	0	0	0
5 to 9....	6458	6174	5333	5007	1125	1167	0	0	0
10 to 14....	5835	5503	5176	4843	659	660	0	0	0
15 to 19....	5849	5144	4685	4565	1164	579	843	119	962
20 to 24....	6019	5089	2782	3485	3237	1604	3149	460	3609
25 to 29....	5194	5130	3038	3583	2156	1547	2094	214	2308
30 to 34....	4854	4435	3204	3256	1650	1179	1622	64	1686
35 to 44....	6036	5259	4673	4472	1363	787	1336	26	1362
45 to 54....	4409	3763	4212	3573	197	190	152	15	167
55 to 59....	1634	1280	1590	1231	44	49	17	3	20
60 to 64....	1008	919	984	889	24	30	7	0	7
65 and over.	1405	1580	1362	1508	43	72	4	0	4
Median....	22.4	22.1	21.5	22.0	23.2	22.2	26.5	22.2	26.1

Source: U.S. Bureau of the Census PC80-1-C/D54, Tables 19 and 36

There were more than 10 active-duty military males for every military female in 1980 (Table 2.13). None of the age groups showed anything like equal proportions. Although there were fewer than 10 males per female for persons less than 29 and more than 55, there were 25 males for every female 30 to 34, and 51 for those 35 to 44 years old.

Table 2.13 also shows that for all military households, there were more females than males under 15 and over 55, but that males predominated in the middle years, with more than 2 males per female 15 to 24 years old. The problem with the ratio of males to females 20 to 29 in the civilian population is also seen here, since there is a great surplus of females here, once again indicating that some of these females should more properly have been placed in the military category.

Table 2.13. Males per 100 Females by Age and Military Status: 1980

Age Group	Total	Civilians	Military Households	Military Persons
Total....	109.2	102.2	139.8	1023.8
0 to 4....	103.7	105.4	98.7	...
5 to 9....	104.6	106.5	96.4	...
10 to 14....	106.0	106.9	99.8	...
15 to 19....	113.7	102.6	201.0	708.4
20 to 24....	118.3	79.8	201.8	684.6
25 to 29....	101.2	84.8	139.4	978.5
30 to 34....	109.4	98.4	139.9	2534.4
35 to 44....	114.8	104.5	173.2	5138.5
45 to 54....	117.2	117.9	103.7	1013.3
55 to 59....	127.7	129.2	89.8	566.7
60 to 64....	109.7	110.7	80.0	...
65 and over.	88.9	90.3	59.7	...

Source: U.S. Bureau of the Census PC80-1-C/D54, Table 19 and Table 36.

SUMMARY

While the median age in 1980 was less than that of the U.S., Guam's population is aging. Median age was higher for civilian females than for civilian males; the opposite was true for the military, and the overall median age for the military was higher than that of civilians. The proportion of the total population less than 5 years old was 12 percent; the proportion over 65 years was 3 percent. The dependency ratio in 1980 was 60.5.

From 1930 onward, the sex ratio of the population was greater than 103; it was 109 in 1980. The sex ratio was higher for both military persons and military households.

The military dominated in the age groups less than 5 years and 20 to 34 years; civilians did so in all other age groups. Due to definitions of military households used in special retabulations of the 1980 census, some military dependent spouses were put into the civilian category, causing surpluses of female civilians in certain age groups.

We have briefly presented data on the age and sex distribution of the population on Guam for 1940 through 1980. It is clear that because of the military presence and the large amount of immigration, Guam will not show a "normal" population distribution for the foreseeable future.

CHAPTER 3
HOUSEHOLD CHARACTERISTICS

Characteristics of the households of Guam reflect many of the sociological and economic changes that have taken place over the years. For many years, extended family households, consisting of parents, children, grandparents, grandchildren, siblings, and other relatives were considered to be the norm. By 1980, extended families were the exception, as fertility and family size declined, and more people were employed in the cash than the subsistence economy. The decline of household size and changes in its composition can be seen in the Census data from 1940 to 1980.

The first question asked in the 1980 Census that was used in determining household status and relationships was Question 1: "What is the name of each person who was living here on Tuesday, April 1, 1980, or who was staying or visiting here and had no other home"?. The second was Item B: Type of unit or quarters, which was to be filled in by the enumerator or a Census office clerk. Question 2: "How is ___ related to ___(the person named in column one)?" was used to obtain the household relationships and helped to delineate family units. Possible responses fell into categories of being related to the person in column one (the householder), such as a spouse, child, sibling, parent, or other relative, and not being related to that person, such as boarder, roommate, paid employee, or other nonrelative. Several other questions in the household section of the questionnaire probed to determine if anyone was not listed, and whether they should be added to the list of household members.

The 1920 and 1930 Censuses did not have household or family questions. In the 1940 Census, the classification of household members was less detailed than in subsequent years. The term "private family" was used to designate everything from a person living alone to an extended family with others living in the home, such as employees and boarders, as long as they made up a single household. The only collection of persons residing together not considered a "private family" was a group of persons living in a hotel, a lodginghouse with five or more lodgers, a school dormitory, prison or jail, hospital or other institution where they were likely to remain for considerable periods of time, the personnel of a military post or a naval station, or the members of a camp or barracks of laborers. These persons were designated as "quasi-family groups". When tabulated, however, distinctions were made between heads of "private families", wives and children, other relatives, other members of private families, and members of "quasi-family groups".

The definitions used for households in the 1950 Census were similar to those used in the 1940 Census, with a change in terminology from "private families" to household. A household (in 1950) included all persons who occupied a house, an apartment, or other group of rooms, or a room that constituted a dwelling unit. In general, a group of rooms occupied a separate living quarters was a dwelling unit if it had separate cooking equipment or if it constituted the only living quarters in the structure. A household included both related family members and unrelated persons, such as lodgers and employees, as it did in 1940. A person living alone in a dwelling unit, or a group of unrelated persons sharing a dwelling unit as partners, was counted as a household. The number of "private families" in 1940 may be regarded as comparable to the number of households in 1950. Quasi-households were not counted as households in 1950.

In 1960, a household was defined as all persons who occupied a housing unit. A house, apartment or other group of rooms, or a single room was a housing unit when it was occupied or intended for occupancy as a separate living quarters; that is, when the occupants did not live and eat with any other persons in the structure and when there was either direct access from outside or through a common hall, or a kitchen or cooking equipment for the exclusive use of the occupant. Groups of 5 or more persons living together, who were unrelated to the person in charge, were designated as living in group quarters.

The 1960 definition of a household differed slightly from that of 1950: the change arose as a result of the shift from a dwelling unit to a housing unit as the basis of enumeration. The number of households in 1960, however, is considered comparable to the number of households in 1950.

In the 1970 Census, substantial changes were made to the definition of a family, with families, households and group quarters being differentiated. According to the new definitions, a family consisted of a household head and one or more other persons living in the same household who were related to the head by blood, marriage, or adoption. All living arrangements other than households were classified as either "institutional" or "other" group quarters. Separate living quarters were group quarters if there were 5 or more persons unrelated to the head, or, if there was no designated head, 6 or more unrelated persons in the unit. Places that fell into this category were rooming and boarding houses, communes, worker's dormitories and convents. Military barracks and ships were regarded as group quarters regardless of the number or relationship of people in the unit.

In 1970, single persons living alone were considered single person households rather than families. Groups consisting of less than 5 unrelated persons living together (that were not in barracks, institutions, hotels, or dormitories) were "unrelated person" households rather than "quasi-families". "Subfamilies", married couples with or without children, or 1 parent with 1 or more single children under 18 years old, that were living in a household and related to, but not including, the head of household or his wife, was a new definition that began with the 1970 Census.

The 1980 Census continued with the subfamily designation and the differentiations between family- and non-family households. However, no designation of head of household was made in the 1980 questionnaire. The definition of group quarters was changed from 5 or more persons unrelated to the head of household (now called householder), to 9 or more persons unrelated to householder. If there were no head of household, 10 or more unrelated persons in a unit made it group quarters, instead of the previous requirement of 6 or more unrelated persons. This change in definition made some units that were group quarters in 1970 into households in 1980. The definition did not change for certain types of living arrangements, such as military barracks or ships.

HOUSEHOLD CHARACTERISTICS

Households with 2 or more persons made up 91 percent of all households on Guam in 1980 (Table 3.1). Single person households made up the remaining 9 percent.

Of those households with 2 or more persons, 82 percent were married couple families, 15 percent were other family households, and 4 percent were non-family households. Other family households were more often headed by females with no husband present (73 percent) than by males with no wife present (27 percent.) The opposite was true of non-family households: 73 percent of these were headed by male householders and 27 percent by female householders. More males lived in single person households (64 percent) than did females (36 percent.)

Table 3.1 Households by Persons in Household and Household Type: 1980

	Number				Percent			
	Total	North Cntrl	South		Total	North Cntrl	South	
Total Households..	24834	11595	8070	5169	100.0	100.0	100.0	100.0
1 person.....	2246	1061	896	269	9.0	9.2	11.1	5.2
Male householder.....	1415	698	545	172	5.7	6.0	6.8	3.3
Female householder.....	811	363	351	97	3.3	3.1	4.3	1.9
2 or more persons.....	22608	10534	7174	4900	91.0	90.8	88.9	94.8
Married couple family....	18473	8696	5597	4180	74.4	75.0	69.4	80.9
Other family.....	3307	1413	1251	643	13.3	12.2	15.5	12.4
Male householder, no wife present.....	892	435	320	137	3.6	3.8	4.0	2.7
Female householder, no husband present.....	2415	978	931	506	9.7	8.4	11.5	9.8
Nonfamily household.....	828	425	326	77	3.3	3.7	4.0	1.5
Male householder.....	602	314	236	52	2.4	2.7	2.9	1.0
Female householder.....	226	111	90	25	.9	1.0	1.1	.5

SOURCE: U.S. Bureau of the Census Summary Tape File 1A, 1980, Table 16.

There were slight differences in type of household by region: the Central region had a greater proportion of single person households than the other 2 regions, with the majority of single householders being male. The South had the smallest proportion of single female-headed households. The South claimed the highest percentage of households with 2 or more persons, followed by the North. The South also had the highest proportion of married-couple family households. The Central region had the highest percentage of female-headed family households.

Tables 3.2 through 3.4 show household and family composition from 1940 through 1980 as percentages of persons in each category. In 1940, 98 percent of the population of Guam lived in households. This proportion dropped to 62 percent in 1950, then steadily rose to 95 percent in 1980. The decrease in the proportion living in households from 1940 to 1950 can be attributed to an influx of military personnel and alien laborers after the end of World War II, most of whom lived in barracks-style housing. Their proportion of the population rose from 2 percent in 1940 to 38 percent in 1950. From 1950 to 1980, the increase in the proportion of persons living in households, from 62 percent to 95 percent, was paralleled by a

decrease in the proportion living in non-institutional group quarters, which fell from 38 percent to 5 percent.

Table 3.2 Percent Household Type: 1940 to 1980

Persons in Households	1980	1970	1960	1950	1940
Total persons	105979	84996	67044	59498	22290
Percent	100.0	100.0	100.0	100.0	100.0
In households	95.3	88.5	82.2	61.9	97.7
In families	91.2	85.5	80.1	NA	NA
In nonfamily households	4.1	2.9	2.1	NA	NA
In group quarters	4.7	11.5	17.8	38.1	2.3

SOURCE: U.S. Bureau of the Census Summary Tape File 1A, Table 17; Decennial Census Reports.

Most (97 percent) households were family households, and were composed of a head, spouse of the head, and other relatives of the head, primarily the own children of the head (Table 3.3). The proportion of the population in families increased slightly in each of the last 3 censuses, as did the proportion who were heads and spouses of heads of families. Single females as heads of families increased by 44 percent between 1970 and 1980. The proportion of children of family heads increased by 9 percent between 1960 and 1970, then decreased by 13 percent between 1970 and 1980. It would seem from the increase in families, heads of families, and spouses of family heads, and the decrease in own children of heads of families, that many of these family households in 1980 were married couples with no children who began new family homes between 1970 and 1980.

Table 3.3 Percent Family Composition: 1960 to 1980

Persons in Families	1980	1970	1960
Total persons	105979	84996	67044
In households	101000	75333	55140
Percent	100.0	100.0	100.0
In families	95.7	96.5	97.4
Head of family	21.6	19.0	18.5
Female, no husband present[1]	2.4	1.8	NA
Male, no wife present	.9	NA	NA
Spouse	18.3	16.0	16.1
Other relatives	55.0	61.6	62.8
Own child of head under 18 yrs.	39.1	48.6	48.1
Other relative of head	15.9	12.9	14.7
Not related to head[2]	.8	NA	NA
Not in families	4.3	3.5	2.5

1For 1960, it is not specified whether husband is present.
2For 1960 and 1970, it is not indicated whether unrelated individuals are in family or nonfamily households.
SOURCE: U.S. Bureau of the Census Summary Tape File 1A Table 17; Decennial Census Reports.

The population that resided in either nonfamily households or in group quarters steadily decreased between 1960 and 1980 (Table 3.4). Of that population, the majority were in group quarters, though this proportion also decreased. The proportion of those in group quarters who were inmates of institutions remained constant at 1 percent for the period; the greatest changes were for those in "Other" group quarters: military or construction barracks. In nonfamily households, both the percentage who were head of households and those not related to the head increased. The greatest amount of this increase was contributed by male householders, whose proportion increased by 232 percent between 1970 and 1980. Some of these male householders were men who separated or divorced between 1970 and 1980 and began new households; some were military personnel who chose not to live in group quarters on base, and rented a house off base.

Table 3.4 Percent Nonfamily and Group Quarters: 1960 to 1980

Persons	1980	1970	1960
Total persons.....	9359	12270	13342
Percent.....	100.0	100.0	100.0
In nonfamily households....	46.8	20.4	10.6
Head of household.....	32.6	10.2	4.5
Male householder.....	21.6	6.5	NA
Female householder.....	11.1	3.7	NA
Not related to head.....	14.2	10.2	6.0
In group quarters.....	53.2	79.6	89.4
Inmate of institution....	1.5	1.1	1.0
Other.....	51.7	78.5	88.4

For 1960 and 1970, it is not indicated whether unrelated individuals are in family or nonfamily households.
SOURCE: U.S. Bureau of the Census Summary Tape File 1A Table 17; Decennial Census Reports.

HOUSEHOLD SIZE

The average size of households on Guam steadily decreased from 1940 to 1980. In 1940, the average size of a household was 5.57 persons, decreasing to 4.99 persons in 1950. By 1980, household size had further decreased to an average of 4.07 persons. The civilian community of Guam in 1980 had a larger average household size than did the military, 4.25 persons and 3.41 persons, respectively. The average number of persons per household in the United States in 1980 was 2.75 persons, only two-thirds the size of Guam's average household.

Household size also changed within regions over the years, with Southern villages almost always having larger households than any other region. Table 3.5 shows the average household size by region from 1940 to 1980. In 1940, the region with the largest average number of persons per household was the South, with 6.66 persons; the region with the smallest average was the North, with 4.47. In 1950, the region with the most persons per household was the Central region, which had

5.34 persons per home on the average; the North had the smallest average household size, with 4.06.

Table 3.5 Average Number of Persons per Household by Region: 1940 to 1980

Region	Persons per Household				
	1980	1970	1960	1950	1940
Total.....	4.07	4.83	5.09	4.99	5.57
North.....	3.96	4.59	4.63	4.06	4.47
Central.....	3.98	4.91	5.24	5.34	5.74
South.....	4.43	5.11	5.45	5.22	6.66

Note: For 1940 and 1950, "regions" are municipalities.
SOURCE: U.S. Bureau of the Census Decennial Census Reports.

By 1960, tabulations of average household size were computed by election district (used interchangeably with "village" in this monograph) as well as by geographical region (Table 3.6). In that year the village with the highest number of persons per household was Talofofo, with an average of 7.01 persons. The lowest average household size was in Santa Rita, with 4.25 persons. Both of these villages were in the Southern region, the region with the largest average household size, which had an average of 5.45 persons per home. The region with the smallest household size was the North, with 4.63 persons.

In 1970, Umatac claimed the largest average household size, with 6.25 persons, and Agana had the smallest, with 3.99. The region with the largest average household size was again the South, with 5.11 persons per household. The region with smallest average was the North, with 4.59. This distribution was true again in 1980: Umatac had the largest households, with 5.63 persons per household, Agana the smallest with 3.01. The South was the region with the largest households, having an average of 4.43 persons, and the North had the smallest, with 3.96.

Table 3.6 Average Number of Persons per Household by Election District: 1960 to 1980

Election District	Persons per Household		
	1980	1970	1960
Total.....	4.07	4.83	5.09
North.....	3.96	4.59	4.63
Dededo.....	4.57	4.81	4.89
Tamuning.....	3.25	4.44	4.70
Yigo.....	3.87	4.48	4.35
Central.....	3.98	4.91	5.24
Agana.....	3.01	3.99	4.51
Agana Heights.....	3.81	4.62	4.88
Asan.....	3.80	4.72	4.81
Barrigada.....	4.10	5.06	5.32
Chalan Pago-Ordot.....	4.71	5.64	6.09
Mangilao.....	3.87	4.64	5.04
Mongmong-Toto-Maite.....	3.97	4.75	5.00
Piti.....	3.61	5.28	5.41
Sinajana.....	4.34	5.52	6.10
South.....	4.43	5.11	5.45
Agat.....	4.66	5.39	5.85
Inarajan.....	5.21	6.12	6.68
Merizo.....	4.70	5.71	6.26
Santa Rita.....	3.90	4.18	4.25
Talofofo.....	4.97	5.85	7.01
Umatac.....	5.63	6.25	6.83
Yona.....	4.62	5.95	5.70

SOURCE: U.S. Bureau of the Census Decennial Census Reports.

Not only has the size of households changed over the years, the number and distribution have as well. Tables 3.7 and 3.8 show the number and proportion of households per region and village for 1940 through 1980. In 1940, the Central region had the highest number and, accordingly, the greatest proportion of households. The region with the smallest number of households was the North. In 1950 this had changed only slightly: Central again had the largest number of households, and the Northern region the smallest.

Table 3.7 Households per Region: 1940 to 1980

	Number					Percent				
Region	1980	1970	1960	1950	1940	1980	1970	1960	1950	1940
Total..	24834	15569	10807	7373	3913	100.0	100.0	100.0	100.0	100.0
North....	11595	6052	3309	1792	402	46.7	38.9	30.6	24.3	10.3
Central..	8070	5751	4539	3453	2398	32.5	36.9	46.8	46.8	61.3
South....	5169	3766	2959	2128	1113	20.8	24.2	27.8	28.9	28.4

Note: For 1940, households are private families.
Source: U.S. Bureau of the Census Decennial Census Reports.

In 1960, the Central region had the largest number of households, and the South had the smallest. The village with the largest number of households overall was Santa Rita, with 1241 or 11.5 percent of the total number of households; the smallest was Umatac, with only 109, or less than 1 percent of the total households (Table 3.8).

In 1970, the North had become the largest region, which contained 6052 households or 38.9 percent of the total number of homes. This was an 83 percent increase in the number of homes in that region (Tables 3.8 and 3.9). By comparison, the number of households had only increased by 27 percent in both the Central and Southern regions. One village even had a decrease in the number of households reported between the 1960 and 1970 Censuses: Piti reported 3 homes less in 1970 than it had in 1960.

By 1980 the Northern region had increased its number of households by another 92 percent over 1970 levels, while the Central region had increased by 40 percent and the South had grown by 37 percent. However, these increases were not uniform: Agana, Asan, and Sinajana had each lost households in the Central region, and Umatac, in the South, had not changed at all from 1970.

Table 3.8 Households per Village and Region: 1960 to 1980

Village	Number			Percent		
	1980	1970	1960	1980	1970	1960
Total	24834	15569	10830	100.0	100.0	100.0
North	11595	6052	3309	46.7	38.9	30.6
Dededo	5104	2067	948	20.6	13.3	8.8
Tamuning	4067	2039	1159	16.4	13.1	10.7
Yigo	2424	1946	1202	9.8	12.5	11.1
Central	8070	5751	4562	32.5	36.9	42.1
Agana	294	453	318	1.2	2.9	2.9
Agana Heights	827	625	615	3.3	4.0	5.7
Asan	526	552	539	2.1	3.5	5.0
Barrigada	1747	1230	1020	7.0	7.9	9.4
Chalan Pago-Ordot	660	512	285	2.7	3.3	2.2
Mangilao	1709	667	304	6.9	4.3	2.8
Mongmong-Toto-Maite	1312	843	586	5.4	5.4	5.4
Piti	422	236	262	1.7	1.5	2.4
Sinajana	573	633	633	2.3	4.1	5.9
South	5169	3766	2959	20.8	24.2	27.3
Agat	853	780	529	5.0	4.9	4.9
Inarajan	392	307	259	1.6	2.0	2.4
Merizo	351	266	222	1.4	1.7	2.0
Santa Rita	2131	1529	1241	8.6	9.8	11.4
Talofofo	398	322	193	1.6	2.1	1.8
Umatac	130	130	109	.5	.8	1.0
Yona	914	432	406	3.7	2.8	3.7

SOURCE: U.S. Bureau of the Census Decennial Census Reports.

The shift in household and population location is even more visible when comparing the differences over a 20-year span than over 10 year increments (Table 3.9). From 1960 to 1980, the Central and Southern regions had increased their numbers of households by 77 and 75 percent, respectively, while the Northern region grew by 250 percent. Some of this growth can be attributed to the opening of military housing areas in Dededo in the 1970's, but the majority is due to new civilian low cost housing tracts, which began being built in that village and Yigo in the 1970's, and the proliferation of apartment units in Tamuning.

Table 3.9 Percent Change in Households per Region: 1940 to 1980

Region	Percent Change from Previous Census				
	1970-1980	1960-1970	1960-1980	1950-1960	1940-1950
Total.....	59.5	43.8	129.3	46.9	88.4
North.....	91.6	82.9	250.4	84.6	345.8
Central.....	40.3	26.1	76.9	31.4	44.0
South.....	37.2	27.3	74.7	39.0	91.2

SOURCE: U.S. Bureau of the Census Decennial Census Reports.

FAMILY CHARACTERISTICS

One measure of "family health" is the change in the proportion of the population under 18 years of age living with two parents, which is affected by the amount of divorce; another measure is the increase in the proportion of female heads of households who have no husband present, which is affected by both divorce and out-of-wedlock births. On Guam, many unmarried women with children choose to apply for welfare assistance, including subsidized housing, and set up their own households, rather than remain with their parents or other relatives.

Children under the age of 18 were present in 68 percent of all households in 1980 (Table 3.10). These children in households represented over 99 percent of all children under 18 (Table 3.11). In 1970, 81 percent of children lived in a married-couple family. By 1980, this figure was down to 79 percent.

Table 3.10 Households with One or More Persons Under 18 Years By Household Type: 1980

	Number	Percent	Percent
Total households.....	24834	100.0	(X)
Total households with children.....	16974	68.3	100.0
Married couple family.....	14316	57.6	84.3
Other family.....	2587	10.4	15.2
Male hholder, no wife present...	574	2.3	3.4
Female hhldr, no husband present	2013	8.1	11.9
Nonfamily household.....	71	.3	.4

SOURCE: U.S. Bureau of the Census Summary Tape File 1A, Tables 3 and 19.

Nearly 12 percent of children under 18 years were living in other family households in 1980 (Table 3.12), with the majority, 83 percent, living in their mother's household rather than their father's. Another 9 percent lived with other relatives or nonrelatives: one parent may have resided with them, but not as householder.

Table 3.11 Persons Under 18 by Household Type and Relationship: 1970 and 1980

	Number		Percent	
	1980	1970	1980	1970
Persons under 18 years	43604	38574	100.0	100.0
In household	43549	NA	99.9	NA
Householder or spouse	48	NA	.1	NA
Own child of householder	39490	36642	90.6	95.0
In married couple family	34330	31117	78.7	80.7
In other family	5160	5525	11.8	14.3

SOURCE: U.S. Bureau of the Census Summary Tape File 1A 1980 Table 17; PC80-1-B54 1980 Table 15; PC(1)-B54 1970 Tables 5 and 11.

Table 3.12 Persons Under 18 By Household Type and Relationship: 1980

	1980	Percent
Persons under 18 years	43604	100.0
In households	43549	99.9
Householder or spouse	48	.1
Own child of householder	39490	90.6
In married couple family	34330	78.7
In other family	5160	11.8
Female householder	4294	9.8
Male householder	866	2.0
Other relatives	3771	8.6
Nonrelative	240	.6
In group quarters	55	.1
Inmate of institution	16	0.0
Other	39	.1

SOURCE: U.S. Bureau of the Census Summary Tape File 1A 1980 Table 17; PC80-1-B54 1980 Table 15; PC(1)-B54 1970 Tables 5 and 11.

In 1970, there were 12,021 husband/wife families (out of 14,315 total families), and 1,354 female-headed families (Table 3.13). Husband/wife families represented 84 percent of total families; female-headed families were 10 percent of the total. The proportion of married-couple families stayed nearly constant in 1980, at about 85 percent of all families. The proportion of female-headed families, however, had risen to 11 percent; the proportion of male householders with no wife present decreased from 7 percent in 1970 to 4 percent in 1980.

Table 3.13 Own Children Under 18 Years By Family Type: 1970 and 1980

Persons	Number		Percent		Percent	
	1980	1970	1980	1970	1980	1970
Families	21780	14315	100.0	100.0	(X)	(X)
With own children under 18 yrs..	15913	10895	73.1	76.1	(X)	(X)
Married couple families	18473	12021	84.8	84.0	100.0	100.0
With own children under 18 yrs.	13770	9413	63.2	65.8	74.5	78.3
Female hhldr, no husband present.	2415	1354	11.1	9.5	100.0	100.0
With own children under 18 yrs.	1727	919	7.9	6.4	71.5	67.9
Male hhlder, no wife present	892	940	4.1	6.6	100.0	100.0
With own children under 18 yrs.	416	563	1.9	3.9	46.6	59.9

SOURCE: U.S. Bureau of the Census PC80-1-B54 1980 Table 15; PC(1)B54 1970 Table 11

Of married-couple families in 1970, 9,413, or 78 percent, had children under 18 years living with them, compared to 68 percent of the female-headed families. These percentages changed to 75 percent and 72 percent, respectively, in 1980.

Persons 65 years and over made up almost 3 percent of the population in 1980 (Table 3.14). Over 88 percent of Guam's elderly lived in family households, with 52 percent being the householder or their spouse.

Table 3.14 Persons 65 and Over By Household Type and Relationship: 1980

	Numbers	Percent
Persons 65 and over	2985	100.0
In family households	2638	88.4
Householder	1106	37.1
Spouse	444	14.9
Other relative	1069	35.8
Nonrelative	19	.6
In nonfamily households	290	9.7
Male householder	121	4.1
Female householder	153	5.1
Nonrelative	16	.5
In Group quarters	57	1.9
Inmate of institution	2	.1
Other	55	1.8

SOURCE: U.S. Bureau of the Census Summary Tape File 1A 1980, Table 15 and Table 20.

In 1980, 36 percent of the elderly lived with relatives and just less than 1 percent stayed with nonrelatives in family households. Of the remaining elderly, 10 percent were residing in nonfamily households, and 2 percent were institutionalized. There are no statistics about the elderly for Census years

prior to 1980, so it is not known whether these figures reflect large increases in the proportions of the population over 65 who are living outside the family household, or who have been institutionalized. Local experts in the area of gerontology expect the proportions of elderly who have been institutionalized to increase by 1990, after the opening of the island's first senior care home (St. Dominic's) in 1987 (Guam Health Planning and Development Agency 1985: 227-37; 1987). St. Dominic's has a capacity of 60 beds, 36 of which were immediately filled with elderly needing constant care when the Intermediate Care Facility of the Guam Memorial Hospital was closed in 1987; an additional 4 beds have been filled in 1988.

SUMMARY

Guam is an island with households in transition. The average household size has decreased from over 5 persons per household to just over 4 persons over the last 40 years, and the distribution of those households has moved from the Central region to the North. The southernmost area has consistently had the largest average size of households, but the proportion of households located there has been steadily decreasing since 1960.

Household and family composition has also changed over the years. Comparisons made with data from the last 2 censuses show that the proportion of female headed families is increasing, while the proportion of married couple families is decreasing. The percentage of married couple families with children under the age of 18 years has decreased slightly, and a parallel increase of female headed families with children under 18 has occurred. This change seems to show a shift from the island tradition of an extended family to one that, whether by divorce or premarital childbearing, is headed by a single female. The great majority of Guam's elderly were living in family households in 1980, either in their own household or with relatives.

Should patterns in household size, composition and distribution be consistent, the island may expect in the future to have smaller households, with more single female heads of households, and a continued shift to residences located in the Northern region. The next Census will allow us to see if these patterns continued from 1980 to 1990.

CHAPTER 4
MARITAL STATUS

Marriage is an important indicator of socio-cultural patterns in a society, particularly because the age pattern of marriage affects fertility. Usually, there is a relationship between age at first marriage and the number of children a woman will have, partly because earlier marriage gives more time for births and younger women tend to be more fertile than older women.

The data on marital status were derived from answers to question 6. The marital status classification referred to the status at the time of enumeration. Persons classified as "now married" included those who had been married only once and had never been widowed or divorced and those currently married persons who remarried after having been widowed or divorced. Consensually married persons were those living in a marital union without a civil or religious matrimonial contract and were included with those classified as now married; they were reported separately as "consensually married". Persons reported as "separated" were those living apart because of marital discord, with or without a legal separation. Persons whose only marriage had been annulled, and all persons under 15 years old were classified as "never married." All persons classified as "never married" are shown as "single" here.

When marital status was not reported, it was allocated according to the relationship to householder and sex and age of the person.

CHARACTERISTICS OF MARITAL STATUS

Between 1930 and 1980 the percentage of males who were never married decreased, but most of the decrease came between 1940 and 1960, and the data are obscured, once again, by the presence of the military and their dependents on Island (Table 4.1). Between 1960 and 1980 there was almost no change in the proportion of males 15 years and over who had never married, about 1 in 3 males. The data for 1950 are clearly affected by the huge presence of the military in that year, many of whom had never married.

The percentage of married males showed the same fluctuations as the never married, but in the opposite direction. Between 1960 and 1980 about 6 in every 10 males were married. The percentage divorced remained small, but has been increasing with each census. On the other hand, the percentage of widowers, which was about 5 percent in 1930 and 1940, decreased to about 1 percent in 1960, and has remained there.

Table 4.1. Marital Status for Males: 1930 to 1980

Marital Status	1980	1970	1960	1950	1940	1930
Males, 15 yrs & over..	36,408	30,978	25,319	32,572	6,158	5,673
Percent.....	100.0	100.0	100.0	100.0	100.0	100.0
Never married.....	33.3	34.1	34.4	55.1	42.4	46.9
Now married.....	62.2	61.7	61.9	39.7	51.6	47.8
Consensually married..	1.6	.8	...	...	...	...
Separated.....	.9	.6	.6	(NA)	(NA)	(NA)
Divorced.....	2.3	2.2	1.5	(NA)	.4	.4
Widowed.....	1.4	1.3	1.4	(NA)	5.6	4.8

Note: 1970 and 1950 data for persons 14 years and over; for 1930 to 1950 "separated" included in "now married"; for 1950, 1698 widowed/divorced males included in total.
Source: U.S. Bureau of the Census Decennial Census Reports

The percentage of never married females has not seen the dramatic changes the males experienced because few of the females were in the military (Table 4.2). For all censuses through the years, the percentage of never married females has been less than comparable males, partly because of the large number of single males in the military. There has been a general downward trend in the percentage of never married females, with glitches in 1940 and again in 1970.

The "now married" segment shows the inverse trend, as with the males. The percentage of divorced females remained at 1 percent or less until 1980 when it jumped to more than 3 percent; the percentage of widows also decreased from more than 10 percent in 1930 and 1940 to about 5 percent in 1970 and 1980.

Table 4.2. Marital Status for Females: 1930 to 1980

Marital Status	1980	1970	1960	1950	1940	1930
Females, 15 yrs & over	32,599	22,241	14,483	11,561	6,298	5,065
Percent.....	100.0	100.0	100.0	100.0	100.0	100.0
Never married.....	26.2	29.6	23.1	31.5	39.0	35.7
Now married.....	63.4	63.4	67.7	59.0	50.3	53.0
Consensually married..	1.6	.7	...	...	...	...
Separated.....	1.3	.9	1.1	(NA)	(NA)	(NA)
Divorced.....	3.5	1.1	1.1	(NA)	.3	.4
Widowed.....	5.5	4.9	6.8	(NA)	10.3	10.8

Note: 1970 and 1950 data for persons 14 years and over; for 1930 to 1950 "separated" included in "now married"; for 1950, 1091 widowed/divorced females included in total.
Source: U.S. Bureau of the Census Decennial Reports.

Tables 4.3 and 4.4 show more the recent trends by sex. For males, the percent change for separated and consensually married persons has been much greater than the change for all males. Some of the change may be due to different

interpretations for these categories, and the definitions for separated and consensually married may be ambiguous to some respondents.

Table 4.3. Marital Status for Males: 1970 and 1980

Marital Status	Number		Percent Change 1970 to 1980	Percent	
	1980	1970		1980	1970
Males, 15 yrs & over..	36,408	30,978	17.5	100.0	100.0
Never married.....	12,122	10,559	14.8	33.3	34.1
Now married.....	22,637	19,120	18.4	62.2	61.7
Consensually married..	581	252	130.6	1.6	.8
Separated.....	320	190	68.4	.9	.6
Divorced.....	825	697	18.4	2.3	2.2
Widowed.....	504	412	22.3	1.4	1.3

Note: 1970 data are for persons 14 years and over.
Source: U.S. Bureau of the Census PC80-1-B54 1980, Table 15, PC(1)-B54, Table 6

The percentage changes for females were larger than for males between 1970 and 1980. Although the number of females 15 years and over increased by about one-third between 1970 and 1980, the percent divorced jumped by 78 percent, and consensually married females increased by more than 70 percent. Also, separated females increased by about 50 percent.

Table 4.4. Marital Status for Females: 1970 and 1980

Marital Status	Number		Percent Change 1970 to 1980	Percent	
	1980	1970		1980	1970
Females, 15 yrs & over	32,599	22,241	46.6	100.0	100.0
Never married.....	8,553	6,593	29.7	26.2	29.6
Now married.....	20,670	14,093	46.7	63.4	63.4
Consensually married..	529	151	250.3	1.6	.7
Separated.....	414	208	99.0	1.3	.9
Divorced.....	1,155	252	358.3	3.5	1.1
Widowed.....	1,807	1,095	65.0	5.5	4.9

Note: 1970 data are for persons 14 years and over.
Source: U.S. Bureau of the Census PC80-1-B54 1980, Table 15, PC(1)-B54, Table 6

There was very little difference in the distribution of civilian and military persons (defined on the basis of a military person in the household) in 1980. The percentage of never married military males was insignificantly higher than for civilians. A higher percentage of civilians than military males were consensually married, and a larger percentage were widowed. Although 73 percent of the adult

male population was civilian, 93 percent of the consensually married males were civilian, as were 94 percent of the widowers.

Table 4.5. Marital Status of Males by Civilian/Military Dependent Status: 1980

Marital Status	Numbers			Percent		Percent
	Total	Civilian	Military	Civilian	Military	Civilian
Males, 15 yrs & over..	36,408	26,530	9,878	100.0	100.0	72.9
Never married.....	12,122	8,746	3,376	33.0	34.2	72.1
Now married.....	22,637	16,483	6,154	62.1	62.3	72.8
Consensually married..	581	538	43	2.0	.4	92.6
Separated.....	320	221	99	.8	1.0	69.1
Divorced.....	825	605	220	2.3	2.2	73.3
Widowed.....	504	475	29	1.8	.3	94.2

Source: U.S. Bureau of the Census PC80-1-C/D54 1980, Table 19.

The marital distribution by civilian and military status for females differed somewhat from the males (Table 4.6). Military females were more likely to be married than civilian females, probably because females in military households are more likely to be the wives of military men than males are to be the husbands of military females. For all other categories, civilian females were present in larger percentages than for the whole population (with more than 90 percent).

Table 4.6. Marital Status of Females by Civilian/Military Dependent Status: 1980

Marital Status	Numbers			Percent		Percent
	Total	Civilian	Military	Civilian	Military	Civilian
Females, 15 yrs & over	32,599	26,562	6,037	100.0	100.0	81.5
Never married.....	8,553	7,806	747	29.4	12.4	91.3
Now married.....	20,670	15,581	5,089	58.7	84.3	75.4
Consensually married..	529	488	41	1.8	.7	92.2
Separated.....	414	396	18	1.5	.3	95.7
Divorced.....	1,155	1,068	87	4.0	1.4	92.5
Widowed.....	1,807	1,711	96	6.4	1.6	94.7

Source: U.S. Bureau of the Census PC80-1-C/D54 1980, Table 19.

Data on marital status by age were not tabulated in 1970. When compared to the 1960 data, the 1980 data show that males tended to get married at slightly younger ages than in the earlier census (Table 4.7). The Singulate Mean Age at Marriage (SMAM) (Hajnal 1954) is derived by an indirect technique to obtain the average age at first marriage for a population or group. The average age at first

marriage for males on Guam in 1980 was 24.5 years (about the same as the 24.9 years reported for the 1960 census).

The number of single males between 30 and 49 years old decreased between 1960 and 1980, while the number of younger and older males increased. Much of this decrease can probably be attributed to military males leaving the island, and not being replaced.

Table 4.7. Percent Never Married by Age for Males: 1960 and 1980

Age Group	Number		Percent Change 1960 to 1980	Percent of all Persons this Age	
	1980	1960		1980	1960
Males, 15 yrs & over..	12,122	8,715	39.1	33.3	34.4
15 to 19 years.....	5,667	2,920	94.1	96.9	95.6
20 to 24 years.....	3,774	3,036	24.3	62.7	67.1
25 to 29 years.....	1,319	989	33.4	25.4	29.2
30 to 34 years.....	554	876	-36.8	11.4	19.4
35 to 39 years.....	251	381	-34.1	7.4	11.1
40 to 44 years.....	156	172	-9.3	5.9	7.9
45 to 49 years.....	110	113	-2.6	5.1	6.7
50 to 54 years.....	106	93	14.0	4.7	9.0
55 to 59 years.....	80	50	60.0	4.9	7.8
60 years and over.....	105	85	23.5	4.4	10.0
SMAM.....	...	...	...	24.5	24.9

Source: 1980 Unpublished data and 1960 Census, Table 13.

The Singulate Mean Age at Marriage for females in 1960 was 20.5 years, which increased to 22.1 years in 1980 (Table 4.8). Unlike the males, the percentage of never married females increased for all ages. As the singulate mean age of first marriage indicates, it is likely that females are delaying first marriage to finish schooling or to enter the labor force because the proportions never married have changed considerably. While only 32 percent of the 20 to 24 year old females in 1960 had never married, this percentage had increased to 40 percent in 1980.

Table 4.8. Percent Never Married by Age for Females: 1960 to 1980

Age Group	Number		Percent Change 1960 to 1980	Percent of all Persons this Age	
	1980	1960		1980	1960
Females, 15 yrs & over	8,553	3,351	155.2	26.2	23.1
15 to 19 years.....	4,635	1,690	174.3	90.1	87.1
20 to 24 years.....	2,039	713	186.0	40.1	32.2
25 to 29 years.....	780	266	193.2	15.2	12.2
30 to 34 years.....	344	175	96.6	7.8	8.4
35 to 39 years.....	169	123	37.4	5.9	7.2
40 to 44 years.....	159	112	42.0	6.6	9.1
45 to 49 years.....	94	80	17.5	4.7	8.4
50 to 54 years.....	98	69	42.0	5.6	9.9
55 to 59 years.....	66	41	61.0	5.2	7.8
60 years and over.....	169	82	106.1	6.8	8.8
SMAM.....	...	...	...	22.1	20.5

Source: 1980 Unpublished data and 1960 Census Report, Table 13.

Using vital statistics data to compute mean age at first marriage for the years 1981 through 1985 yields slightly higher results (Table 4.9). The mean age at first marriage for females was 24.1 years in 1981, decreased to 23.9 years in 1982, then increased and decreased again in 1983 and 1984. In 1986, it was 24.3 years. The mean age at first marriage for males was 26.3 years in 1981, decreased to 25.7 years in 1982, rose to 26.7 years in 1983, then steadily decreased to 25.9 years in 1985.

Table 4.9. Mean Age at First Marriage by Sex: Guam, 1981 to 1985

Sex	1981-1985	1981	1982	1983	1984	1985
Male	26.4	26.3	25.7	26.7	26.4	25.9
Female	24.4	24.1	23.9	24.6	24.3	24.3

Source: Annual Statistical Reports, Office of Vital Statistics, DPHSS.

CONSENSUAL MARRIAGE

Use of "consensually" married on the questionnaire is somewhat problematic because there is no generally agreed upon definition of what constitutes a consensual union. As noted previously, for 1980, the Census Bureau defined a consensual marriage as a couple who were "living in a marital union without a civil or religious matrimonial contract". It is likely, however, that respondents and enumerators did not always use this definition to decide on marital status of individuals in the census.

In traditional Micronesian societies, marriage was not necessarily formalized by a religious ceremony, and persons sometimes moved into and out of unions over

the years. Although many marriages among Chamorros were formalized after Hispanization by the Catholic Church, not all marriages were then or are now formalized. Nonetheless, it is not clear that the Census is the best instrument for collecting data on this subject.

Altogether 581 of the 22,637 (3 percent) of the married males in 1980 were in consensual unions (Table 4.10). Although more than 11 percent of the married males 15 to 19 years old and 5 percent of those 20 to 24 were married consensually, the percentages dropped off after that. Males in consensual unions, then, tended to be younger than those who were in regular unions, that is, the younger the male, the more likely he was to be consensually married.

These data indicate that there may be problems in interpreting "consensual" marriage. Since these unions do not seem to persist into middle age, consensual union might be better classified as "trial" marriage. If "consensual" marriage is fully categorized by the Census Bureau definition, then it is very different from non-consensual unions, at least in terms of age. If the government of Guam is to use the data on consensual marriage for planning and policy use, a re-definition may be necessary, or at least a more thorough evaluation by a survey may be required.

Table 4.10. Consensually Married Males by Age: 1980

Age Group	Number		Percent Consensually Married	Percent	
	All Married	Consensually		All Married	Consensually
Males, 15 yrs & over..	22,637	581	2.6	100.0	100.0
15 to 19 years.....	176	20	11.4	.8	3.4
20 to 24 years.....	2,142	113	5.3	9.5	19.4
25 to 29 years.....	3,653	118	3.2	16.1	20.3
30 to 34 years.....	4,087	93	2.3	18.1	16.0
35 to 44 years.....	5,302	122	2.3	23.4	21.0
45 to 54 years.....	3,921	65	1.7	17.3	11.2
55 to 59 years.....	1,453	24	1.7	6.4	4.1
60 to 64 years.....	856	19	2.2	3.8	3.3
65 years and over.....	1,047	7	.7	4.6	1.2

Source: U.S. Bureau of the Census PC80-1-C/D54 1980, Table 19.

The data for females in consensual unions were similar to the data for males (Table 4.11). Again, about 3 percent of the marriages were consensual, and the trend by age was similar to that found among the men.

Table 4.11. Consensually Married Females by Age: 1980

Age Group	Number		Percent Consensually Married	Percent	
	All Married	Consensually		All Married	Consensually
Females, 15 + years...	20,670	529	2.6	100.0	100.0
15 to 19 years.....	490	56	11.4	2.4	10.6
20 to 24 years.....	2,866	168	5.9	13.9	31.8
25 to 29 years.....	4,034	100	2.5	19.5	18.9
30 to 34 years.....	3,740	77	2.1	18.1	14.6
35 to 44 years.....	4,405	70	1.6	21.3	13.2
45 to 54 years.....	3,003	35	1.2	14.5	6.6
55 to 59 years.....	935	12	1.3	4.5	2.3
60 to 64 years.....	608	5	.8	2.9	.9
65 years and over.....	589	6	1.0	2.8	1.1

Source: U.S. Bureau of the Census PC80-1-C/D54 1980, Table 19.

More than half of the consensual unions for males were of males born on Guam, compared to only 3 in 10 of all marriages, although these were only 4 percent of all the marriages for males born on Guam (Table 4.12). Micronesians were more likely to be in consensual unions than Asians or persons born in other places, with Palauans and Other Micronesians having more than 5 percent of their marriages being consensual. On the other hand, males born in the United States and Philippines had very low rates of consensual unions; in fact, although marriages to males born in the U.S. were 30 percent of all marriages, they were only 16 percent of the consensual unions.

Table 4.12. Consensually Married Males by Birthplace: 1980

Birthplace	Number		Percent Consensually Married	Percent	
	All Married	Consensually		All Married	Consensually
Males, 15 yrs & over..	22,637	581	2.6	100.0	100.0
Guam.....	6,738	306	4.5	29.8	52.7
Northern Mariana Is.....	409	19	4.6	1.8	3.3
Palau.....	206	11	5.3	.9	1.9
Other Micronesia.....	99	5	5.1	.4	.9
Asia.....	7,237	134	1.9	32.0	23.1
Japan and Okinawa.....	296	4	1.4	1.3	.7
Philippines.....	6,104	66	1.1	27.0	11.4
United States.....	6,725	91	1.4	29.7	15.7
Elsewhere and N.S.....	1,223	15	1.2	5.4	2.6

Source: U.S. Bureau of the Census PC80-1-C/D54 1980, Table 24.

Finally, 61 percent of all of the female consensual marriages were of females born on Guam, compared to 37 percent of all marriages for females born on Guam

(Table 4.13). Once again, Palau (8 percent) and Other Micronesia (6 percent) had the highest percentage of consensual unions, while United States and Asia had the lowest percentages. Although Asians made up 32 percent of all marriages, they were only 12 percent of the consensual unions.

Table 4.13. Consensually Married Females by Birthplace: 1980

Birthplace	Number		Percent Consensually Married	Percent	
	All Married	Consensually		All Married	Consensually
Females, 15 + yrs.....	20,670	529	2.6	100.0	100.0
Guam.....	7,658	325	4.2	37.0	61.4
Northern Mariana Is.....	463	25	5.4	2.2	4.7
Palau.....	275	23	8.4	1.3	4.3
Other Micronesia.....	107	7	6.5	.5	1.3
Asia.....	6,725	62	.9	32.5	11.7
Japan and Okinawa.....	707	6	.8	3.4	1.1
Philippines.....	4,882	22	.5	23.6	4.2
United States.....	4,759	69	1.4	23.0	13.0
Elsewhere and N.S.....	683	18	2.6	3.3	3.4

Source: U.S. Bureau of the Census PC80-1-C/D54 1980, Table 24.

MARITAL STATUS BY REGION

For 1980, the Northern and Southern regions had basically similar percentages of single persons, 27.3 and 29.4 percent, respectively (Table 4.14). Piti, with 40.8 percent, and Umatac, with 38.0 percent, had the highest percentages of single persons in relation to their respective election district populations. These election districts had relatively small populations: Piti had a total population of 2,368 and Umatac had the island's lowest population with 405.

Similar population composition is seen in the "now married" category with the Northern region showing 66.6 percent and the Southern area with 65.1 percent of their respective total populations currently married. The election district of Santa Rita in the South had the highest percentage of married persons with 73.4 percent of its total. Sinajana, a moderately populated village in the Central region, had the lowest with 52.7 percent.

Table 4.14. Marital Status of Persons 15+ Years by Election District Guam: 1980

Election District	Total	Percent				
		Total	Single	Now Marrd	Widwd	Divrcd
Guam	69007	100.0	30.0	63.8	3.3	2.9
North	31166	100.0	27.3	66.6	3.0	3.1
Dededo	14591	100.0	27.8	66.6	3.2	2.4
Tamuning	9768	100.0	26.8	65.2	3.3	4.6
Yigo	6807	100.0	27.0	68.8	1.9	2.2
Central	23167	100.0	33.8	59.2	3.7	3.2
Agana	673	100.0	33.9	57.2	4.0	4.9
Agana Heights	2244	100.0	34.8	56.0	5.1	4.1
Asan	1389	100.0	28.9	63.6	4.4	3.1
Barrigada	5176	100.0	34.2	60.1	3.4	2.3
Chalan Pago-Ordot	1878	100.0	32.6	60.8	4.4	2.2
Mangilao	4412	100.0	30.1	63.7	2.7	3.4
Mongmong-Toto-Maite	3450	100.0	33.9	58.1	3.6	4.4
Piti	2368	100.0	40.8	54.8	1.9	2.6
Sinajana	1577	100.0	36.8	52.7	7.1	3.4
South	14674	100.0	29.4	65.1	3.6	2.0
Agat	2477	100.0	33.2	59.3	5.0	2.5
Inarajan	1206	100.0	36.3	57.5	5.1	1.1
Merizo	998	100.0	33.4	58.4	5.7	2.5
Santa Rita	5934	100.0	23.5	73.4	1.8	1.4
Talofofo	1183	100.0	34.4	59.6	3.8	2.2
Umatac	405	100.0	38.0	53.1	7.4	1.5
Yona	2461	100.0	31.2	62.1	4.0	2.6

Source: U.S. Bureau of the Census Summary Tape File 3A 1980 Table 26.

All three regions had about the same percentages for those widowed: North had 3.0 percent, Central 3.7 percent and South 3.6 percent. The village of Umatac had the highest percentage with 7.4 percent of its total being widowed.

Divorces were low in 1980 with an overall of 3 percent for all districts. The village of Agana with the second lowest population of 673 showed the highest rate of divorced persons at 5 percent, followed by Tamuning, the second highest in population at 9,768, with 5 percent divorced.

So far, in this chapter, we have given a brief overview of marriage patterns from recent decennial censuses. These data will now be analyzed with reference to vital statistics.

VITAL STATISTICS

Data obtained from vital statistics are shown for the six year period 1980 through 1985 for the following section of this chapter. In the later portion, a five year period, 1978 through 1982, is discussed.

Chamorro grooms comprised between 19 percent and 25 percent of the cohort totals for the years 1980 to 1985 (Table 4.15). Their numbers rose slightly between 1980 and 1982 (a total of 32), and then increased dramatically in 1983 by 48. However, the following year there was a sharp decrease from 390 to 313. In 1985, their numbers increased again considerably, from 313 to 359, a gain of 46 grooms.

Table 4.15. Marriage by Race of Groom: 1980 to 1985

Race	1985	1984	1983	1982	1981	1980
Total.....	1498	1382	1653	1393	1480	1636
Chamorro.....	359	313	390	342	308	310
Caucasian.....	401	293	287	274	264	284
Filipino.....	221	229	152	147	204	216
Micronesian.....	36	36	28	30	30	26
Negro.....	79	70	66	55	56	40
Japanese.....	279	320	598	429	492	670
Chinese.....	10	11	8	4	8	10
Other Asian.....	20	17	13	15	15	4
All Others.....	93	93	111	97	103	76

SOURCE: Annual Statistical Reports,Office of Vital Statistics, DPH&SS.

Table 4.16. Percent Marriage by Race of Groom: 1980 to 1985

Race	1985	1984	1983	1982	1981	1980
Total.....	100.0	100.0	100.0	100.0	100.0	100.0
Chamorro.....	24.0	22.6	23.6	24.6	20.8	18.9
Caucasian.....	26.8	21.2	17.4	19.7	17.8	17.4
Filipino.....	14.8	16.6	9.2	10.6	13.8	13.2
Micronesian.....	2.4	2.6	1.7	2.2	2.0	1.6
Negro.....	5.3	5.1	4.0	3.9	3.8	2.4
Japanese.....	18.6	23.2	36.2	30.8	33.2	41.0
Chinese.....	.7	.8	.5	.3	.5	.6
Other Asian.....	1.3	1.2	.8	1.1	1.0	.2
All Others.....	6.2	6.7	6.7	7.0	7.0	4.6

SOURCE: Annual Statistical Reports,Office of Vital Statistics, DPH&SS.

The percentage of Chamorro brides, as compared to Chamorro grooms, showed even greater stability over the six-year period (Table 4.17). There was a gain of 4 percentage points, from 26 in 1980 to 30 in 1981. There was a slight increase of 2 percentage points the following year. In 1983, the percentage dipped slightly to 28, only to rise again in 1984 to 29 and then to 30 in 1985. Chamorro brides appeared to follow a trend similar to that of Chamorro grooms. With the exception of 1981, where the number of grooms was less than that of 1980, brides showed a

steady increase to a peak in 1982 and 1983. Both showed their highest count in 1983: 462 Chamorro brides and 390 Chamorro grooms.

Table 4.17. Marriage by Race of Bride: 1980 to 1985

Race	1985	1984	1983	1982	1981	1980
Total.....	1498	1382	1653	1393	1480	1636
Chamorro.....	442	406	462	444	436	418
Caucasian.....	206	161	180	193	184	181
Filipino.....	332	284	208	153	195	198
Micronesian.....	63	46	62	46	41	47
Negro.....	34	34	26	29	19	14
Japanese.....	300	349	605	442	496	683
Chinese.....	9	7	8	2	10	7
Other Asian.....	12	8	5	9	9	0
All Others.....	100	87	97	75	90	88

SOURCE: Annual Statistical Reports, Office of Vital Statistics, DPH&SS.

Table 4.18. Percent Marriage by Race of Bride: 1980 to 1985

Race	1985	1984	1983	1982	1981	1980
Total.....	100.0	100.0	100.0	100.0	100.0	100.0
Chamorro.....	29.5	29.4	27.9	31.9	29.5	25.6
Caucasian.....	13.8	11.6	10.9	13.9	12.4	11.1
Filipino.....	22.2	20.5	12.6	11.0	13.2	12.1
Micronesian.....	4.2	3.3	3.8	3.3	2.8	2.9
Negro.....	2.3	2.5	1.6	2.1	1.3	.9
Japanese.....	20.0	25.3	36.6	31.7	33.5	41.7
Chinese.....	.6	.5	.5	.1	.7	.4
Other Asian.....	.8	.6	.3	.6	.6	0.0
All Others.....	6.5	6.1	5.7	5.4	6.1	5.1

SOURCE: Annual Statistical Reports, Office of Vital Statistics, DPH&SS.

Caucasian grooms outnumbered any other race in 1985 with a total of 401. However, prior years showed considerably lower totals; the next greatest total was 293 in 1984, and the lowest was 264 in 1981 for this racial group. Caucasian brides also showed their highest total in 1985 with 206, although they were the fourth highest ethnic group reported.

The Office of Vital Statistics does not report military marriages specifically, although some tables in the Annual Statistical Report indicate marriages that took place in a military area. One explanation for the large increase in Caucasian marriages might be that Guam became a homeport for a few Naval vessels and, conceivably, marriages occurred to military personnel while they were homeported here. The effect of the military - including reservists - on marriage cannot be ascertained without more specific data. Perhaps the inclusion of specified tables on military marriages in the Annual Statistical Report will help.

There was a greater number of Filipino brides than Filipino grooms in 1985. In 1980, the situation was reversed, with Filipino grooms slightly exceeding the number of Filipino brides: 216 grooms in 1980 as compared to 198 brides, whereas in 1985 there were 332 Filipino brides compared to 221 grooms. A plausible explanation for the relatively low number of marriages in these groups is that there is probably a high degree of selective female migration to Hawaii and the U.S. mainland, where migrants acquire jobs as nurses, domestic laborers, farm helpers, etc.

The other racial groups had fewer brides and grooms, except for Japanese, who showed consistently higher figures than most ethnic groups in the six-year period. The Japanese, however, have very little impact on the population of Guam, since they come here to marry, honeymoon, and then return to Japan.

For both sexes, all of the large racial groups (Chamorro, Filipino, and Caucasian) showed tremendous increases in the number of divorces in 1985 as compared to 1984 (Tables 4.19 through 4.22), or any previous year.

Table 4.19. Divorces by Race of Husband: 1980 to 1985

Race	1985	1984	1983	1982	1981	1980
Total.....	899	622	617	508	382	521
Chamorro.....	202	133	125	103	100	103
Micronesian.....	20	14	15	11	7	14
Caucasian.....	305	170	184	191	132	180
Filipino.....	203	125	121	112	98	165
Negro.....	53	29	17	16	8	18
Japanese.....	10	6	4	3	3	2
Chinese.....	4	2	8	2	1	6
Other Asian.....	32	26	42	42	18	25
All Others.....	48	49	32	13	11	6
Not Reported.....	22	68	69	15	4	2

SOURCE: Annual Statistical Reports, Office of Vital Statistics, DPH&SS.

Caucasian husbands had the highest divorce totals - both in numbers and percents - consistently throughout the five year period. However, Caucasian wives ranked second to Chamorro wives for the same period.

Table 4.20. Divorces by Race of Wife: 1980 to 1985

Race	1985	1984	1983	1982	1981	1980
Total.....	899	622	617	508	382	521
Chamorro.....	232	180	178	138	122	132
Micronesian.....	22	16	17	15	10	16
Caucasian.....	227	140	122	147	94	133
Filipino.....	212	108	108	96	87	152
Negro.....	36	18	13	14	4	7
Japanese.....	20	10	14	3	5	5
Chinese.....	4	3	4	1	1	7
Other Asian.....	41	33	56	66	47	60
All Others.....	81	50	38	10	8	7
Not Reported.....	24	64	67	18	4	2

SOURCE: Annual Statistical Reports, Office of Vital Statistics, DPH&SS.

Filipino husbands and wives tended to parallel each other over the five year period. Both sexes showed a drop in divorces between 1980 and 1981, and then a gradual increase afterward.

Table 4.21. Percent Divorces by Race of Husband: 1980 to 1985

Race	1985	1984	1983	1982	1981	1980
Total.....	100.0	100.0	100.0	100.0	100.0	100.0
Chamorro.....	22.5	21.4	20.3	20.3	26.2	19.8
Micronesian.....	2.2	2.3	2.4	2.2	1.8	2.7
Caucasian.....	33.9	27.3	29.8	37.6	34.6	34.5
Filipino.....	22.6	20.1	19.6	22.0	25.7	31.7
Negro.....	5.9	4.7	2.8	3.1	2.1	3.5
Japanese.....	1.1	1.0	.6	.6	.8	.4
Chinese.....	.4	.3	1.3	.4	.3	1.2
Other Asian.....	3.6	4.2	6.8	8.3	4.7	4.8
All Others.....	5.3	7.9	5.2	2.6	2.9	1.2
Not Reported.....	2.4	10.9	11.2	3.0	1.0	.4

SOURCE: Annual Statistical Reports, Office of Vital Statistics, DPH&SS.

Again, due to the transitory nature of the Japanese - that is, they merely marry on Guam and then go elsewhere - their divorce rate remained quite low, as was the case with the other Asians, particularly Chinese.

Table 4.22. Percent Divorces by Race of Wife: 1980 to 1985

Race	1985	1984	1983	1982	1981	1980
Total.....	100.0	100.0	100.0	100.0	100.0	100.0
Chamorro.....	25.8	28.9	28.8	27.2	31.9	25.3
Micronesian.....	2.4	2.6	2.8	3.0	2.6	3.1
Caucasian.....	25.3	22.5	19.8	28.9	24.6	25.5
Filipino.....	23.6	17.4	17.5	18.9	22.8	29.2
Negro.....	4.0	2.9	2.1	2.8	1.0	1.3
Japanese.....	2.2	1.6	2.3	.6	1.3	1.0
Chinese.....	.4	.5	.6	.2	.3	1.3
Other Asian.....	4.6	5.3	9.1	13.0	12.3	11.5
All Others.....	9.0	8.0	6.2	2.0	2.1	1.3
Not Reported.....	2.7	10.3	10.9	3.5	1.0	.4

SOURCE: Annual Statistical Reports, Office of Vital Statistics, DPH&SS.

In this segment of the discussion on marriage, data obtained from the Office of Vital Statistics will cover the five year period between 1978 and 1982.

From 1978 to 1980 (Table 4.23), more Caucasian grooms chose brides of other races. In the following two years, 1981 and 1982, the "Other" racial grooms exceeded Caucasians by a discernably small percentage: 16.0 percent in 1981 and 7.2 percent in 1982.

Table 4.23. Marriages by Race of Bride and Race of Groom : 1978 to 1982

		Groom's Race									
		Bride Same					Bride Not Same				
Year	Total	Total	Cham	Fil	Cauc	Other	Total	Cham	Fil	Cauc	Other
1982...	1393	999	277	84	146	492	394	65	63	128	138
1981...	1480	1054	249	115	137	553	426	59	89	127	151
1980...	1634	1221	248	118	136	719	413	62	98	148	105
1979...	1766	1319	258	148	147	766	447	67	112	142	126
1978...	1767	1423	284	150	153	836	344	47	74	140	83
Percent											
1982...		100.0	27.7	8.4	14.6	49.2	100.0	16.5	16.0	32.5	35.0
1981...		100.0	23.6	10.9	13.0	52.5	100.0	13.8	20.9	29.8	35.4
1980...		100.0	20.3	9.7	11.1	58.9	100.0	15.0	23.7	35.8	25.4
1979...		100.0	19.6	11.2	11.1	58.1	100.0	15.0	25.1	31.8	28.2
1978...		100.0	20.0	10.5	10.8	58.7	100.0	13.7	21.5	40.7	24.1

Source: Annual Statistical Reports, Office of Vital Statistics, Department of Public Health and Social Services, Guam.

The number of Caucasian grooms taking brides of another race was greater than the number of same-race marriages in 1980 (Table 4.24). This did not occur in any other racial group for the five year period.

Table 4.24. Marriages of Caucasian Grooms by Race of Bride, Guam: 1978 to 1982

Year	Caucasian Grooms		Race of Bride			
	Number	Percent	Chamorro	Filipino	Caucasian	Other
1982.....	274	100.0	16.8	11.3	53.3	18.6
1981.....	264	100.0	13.6	15.9	51.9	18.6
1980.....	284	100.0	18.0	13.0	47.9	21.1
1979.....	289	100.0	16.6	12.1	50.9	20.4
1978.....	293	100.0	17.7	11.9	52.2	18.1

Source: Annual Statistical Reports, Office of Vital Statistics, Department of Public Health and Social Services, Guam.

There was a slight decrease in the number of same-race marriages for Chamorros which occurred between 1978 and 1981, but the number rose again in 1982 to 277 (Table 4.25).

Table 4.25. Marriages of Chamorro Grooms by Race of Bride, Guam: 1978 to 1982

Year	Chamorro Grooms		Race of Bride			
	Number	Percent	Chamorro	Filipino	Caucasian	Other
1982.....	342	100.0	81.0	6.4	4.4	8.2
1981.....	308	100.0	80.8	8.8	3.9	6.5
1980.....	310	100.0	80.0	7.4	5.8	6.8
1979.....	325	100.0	79.4	5.5	6.5	8.6
1978.....	331	100.0	85.8	4.5	2.4	7.3

Source: Annual Statistical Reports, Office of Vital Statistics, Department of Public Health and Social Services, Guam.

There was a marked (39 percent) decrease of Filipino grooms from 204 in 1981 to 147 in 1982. This group experienced a slight increase from 1978 to 1979, but then the figure dropped significantly in 1980: from 260 in 1979 to 216 in 1980, a decrease of 20.4 percent.

Table 4.26. Marriages of Filipino Grooms by Race of Bride, Guam: 1978 to 1982

Year	Filipino Grooms		Race of Bride			
	Number	Percent	Chamorro	Filipino	Caucasian	Other
1982.....	147	100.0	29.9	57.1	3.4	9.5
1981.....	204	100.0	34.3	56.4	4.9	4.4
1980.....	216	100.0	32.4	54.6	6.0	6.9
1979.....	260	100.0	32.7	56.9	5.0	5.4
1978.....	224	100.0	21.0	67.0	5.8	6.2

Source: Annual Statistical Reports, Office of Vital Statistics, Department of Public Health and Social Services, Guam.

Grooms of "Other" races showed a marked downward trend between 1978 and 1982, from 919 grooms to 630 (Table 4.27).

Table 4.27. Marriages of Other Race Grooms by Race of Bride, Guam: 1978 to 1982

Year	Other Grooms		Race of Bride			
	Number	Percent	Chamorro	Filipino	Caucasian	Other
1982.....	630	100.0	12.2	2.5	4.3	81.0
1981.....	704	100.0	11.5	1.6	3.6	83.4
1980.....	824	100.0	5.9	2.4	1.7	89.9
1979.....	892	100.0	5.9	3.0	2.1	88.9
1978.....	919	100.0	4.9	1.1	1.5	92.5

Source: Annual Statistical Reports, Office of Vital Statistics, Department of Public Health and Social Services, Guam.

SUMMARY

From looking at both census and vital statistics data, it is apparent that both marriage and divorce are on the rise. It has been estimated in the U.S. that the divorce rate is approaching 50 percent, that one out of every two marriages will end in divorce. On Guam, at least from 1978 to 1985, the rate of divorce was not that high, though it was rising. Between the 1970 and 1980 censuses, the number of divorced males rose 16 percent, while divorced females increased by 78 percent. There was also an increase in the number of separated males (41 percent) and females (50 percent).

Between 1960 and 1980, age at first marriage increased by 8 percent for females, showing that females were delaying their first marriage, probably to finish schooling or enter the labor force.

By region, Central had the highest percentages of single, widowed, and divorced persons; North had the most married. By village, Piti had the most single persons, Santa Rita the greatest married, Umatac the most widowed, and Agana the most divorced.

From 1980 to 1984, Japanese men comprised the greatest percentage of grooms, but this was true of Japanese brides for only 1980 and 1981. Chamorros were the second most likely group to get married between 1980 and 1985, followed closely by Caucasians.

Between 1980 and 1985, Caucasian males were the group most likely to get divorced; Chinese males the least likely. For females, Chamorros had the highest rate of divorce (except for 1980 when it was the Filipinos), for all years, Chinese women were least likely.

Same-race marriages from 1978 to 1982 seemed to be more common for those belonging to "Other" races than for the 3 largest groups (Chamorro, Filipino, Caucasian). However, when "Others" are removed from consideration, Chamorros were more likely to marry others of their own race. Caucasians generally had the highest rates of mixed race marriages, but this could often backfire: they also had the highest rates of mixed race divorces. Same race divorces, however, outnumbered mixed race divorces in all years.

Since marriage and divorce are events that can happen more than once to a person, and are not as limited by age as fertility is, they are not as easy to work with as other demographic events are. The snapshots provided by census and vital register data can only scratch the surface of what is a fascinating area of human behavior.

CHAPTER 5
FERTILITY

Fertility is of vital interest in the field of demography, in light of the role it plays in giving shape to age-sex structure and in producing the alteration in the size of a population. The age distribution of a population is more sensitive to changes in fertility behavior than to changes in mortality. The proportion of a population that is young or old depends mainly on the birth rate and not on the death rate, because as people live longer, the population structure, as a whole, becomes older rather than younger. A population has an increasing proportion of older people when the birth rates have fallen and not because the death rates have fallen. Any decline in mortality makes the age distribution younger as more children survive. The decline of mortality has very little effect at middle ages. On the other hand, any decline in fertility necessarily makes the population older since it reduces the proportion of children.

Measures of fertility quantify the birth performance of a population over a period of time. These measures can be used to compare the fertility levels of a number of populations during a particular time interval to exhibit a time trend in fertility in a population.

Fertility measures include crude birth rate, gross fertility rate, general fertility rate, and rate of reproduction.

Analysis of fertility trends in the Pacific is not abundant, and Guam is no exception. Although Guam has had regular censuses, and a great deal of information has been collected, there has been no systematic look at the fertility trends until recently (Levin and Retherford 1986).

The data for children ever born in 1980 were derived from the answers to question 21a (How many babies has ___ ever had, not including stillbirths?), which was asked of women 15 years old and over, regardless of marital status. Still-births, stepchildren, and adopted children were excluded. Ever-married women were instructed to include all children born to them before and during their most recent marriage, children no longer living, and children away from home, as well as children who were still at home. Never-married women were instructed to include all children born to them. Data on children ever born reported by never-married women should be viewed with caution because of the very high rates of nonresponse to the question and the anticipated underreporting of live births to these women.

In the 1980 census, a terminal category of "15 or more" was used for recording the number of children ever born. For purposes of computing the total number of children ever born, the terminal category was given a mean value of 15.

The data on the number of children still living were derived from answers to question 21b (How many of these children are still living?), which was asked of all women 15 years old and over who reported having had at least one child ever born in question 21a. For the purposes of computing the total number of children still living, the terminal category "15 and over" was given a mean value of 15. In addition, all women 15 years old and over who reported having had a child were also asked in question 21c if any children were born since April 1, 1979.

Although the data were collected for women past age 50, subsequent editing procedures only accepted a "Yes" response for women 15 to 50 years old. Neither of these two questions had been asked in prior decennial censuses.

FERTILITY CHARACTERISTICS

In 1980, there were 2,517 children ever born per 1,000 women 15 years and over in Guam, and 2,391 children still living per 1,000 women (Table 5.1). Another way of stating this is that the average woman had had 2.5 children ever born, and 2.4 still alive. Until the 55 to 59 year age group, there was a direct correlation between age and number of children ever born, that is, the older the age group of women, the higher the fertility. Of course, many of the young women had not finished their fertility and, in the case of the 15 to 19 year old women, many had not even started to have children.

Table 5.1. Children Ever Born, Still Alive, and Children Born in the Last Year: 1980

		Numbers			Per 1000 Women		
Age Group	Females	Children Ever Born	Children Still Alive	Births Previous Year	Children Ever Born	Children Still Alive	Births Previous Year
Total.....	32,599	82,040	77,935	...	2,517	2,391	...
15 to 19 yrs.	5,144	613	600	247	119	117	48
20 to 24 yrs.	5,089	4,144	4,079	885	814	802	174
25 to 29 yrs.	5,130	8,394	8,224	897	1,636	1,603	175
30 to 34 yrs.	4,435	10,865	10,645	505	2,450	2,400	114
35 to 44 yrs.	5,259	18,875	18,325	275	3,589	3,485	52
45 to 54 yrs.	3,763	18,437	17,657	...	4,900	4,692	...
55 to 59 yrs.	1,280	6,644	6,251	...	5,191	4,884	...
60 to 64 yrs.	919	4,925	4,524	...	5,359	4,923	...
65 + yrs.....	1,580	9,143	7,630	...	5,787	4,829	...

Source: U.S. Bureau of the Census PC80-1-C/D54, 1980 Table 19.

For those women who had probably completed their fertility, there is evidence of a fertility decline. Women in the 35 to 44 year old age group had 3,589 children per 1,000 women, compared to 4,900 for women 45 to 54 and 5,191 for women 55 to 59. Women who were 55 to 59 years old had had an average of about 5.2 children ever born, while those 45 to 54 had 4.9, and the 35 to 44 aged women had 3.6. While a slight decline of 0.3 children per woman is evident between the 55 to 59 year old women and the 45 to 54 year old women, a larger decline of 1.3 children per woman between the 45 to 54 year olds and the 35 to 44 year olds can be seen. Older women, those aged 60 to 64 and 65 and over, had still larger numbers of children ever born: an average of 5.4 and 5.8 per woman, respectively.

Tables 5.2 and 5.3 show the differences between the civilian and military female populations in numbers of children ever born, numbers still alive, and births in the previous year. Civilian women had more children ever born per 1,000 women in all age groups except the 15 to 19 and 60 to 64 year olds, and also had more children still alive per 1,000 women. For births in the previous year,

however, military women had higher rates in the 2 youngest age groups than did civilian women.

Table 5.2. Children Ever Born, Still Alive, and Children Born in the Last Year: 1980 Civilians

CIVILIAN		Numbers			Per 1000 Women		
Age Group	Females	Children Ever Born	Children Still Alive	Births Previous Year	Children Ever Born	Children Still Alive	Births Previous Year
Total.....	26,562	72,734	68,947	...	2,738	2,596	...
15 to 19 yrs.	4,565	502	491	200	110	108	44
20 to 24 yrs.	3,485	2,951	2,913	595	847	836	171
25 to 29 yrs.	3,583	6,160	6,055	657	1,719	1,690	183
30 to 34 yrs.	3,256	8,626	8,451	394	2,649	2,596	121
35 to 44 yrs.	4,472	16,866	16,386	245	3,771	3,664	55
45 to 54 yrs.	3,573	17,691	16,954	...	4,951	4,745	...
55 to 59 yrs.	1,231	6,408	6,027	...	5,206	4,896	...
60 to 64 yrs.	889	4,735	4,345	...	5,326	4,888	...
65 + yrs.....	1,508	8,795	7,325	...	5,832	4,857	...

Source: Unpublished tabulations, U.S. Bureau of the Census.

Table 5.3. Children Ever Born, Still Alive, and Children Born in the Last Year: 1980 Military

MILITARY		Numbers			Per 1000 Women		
Age Group	Females	Children Ever Born	Children Still Alive	Births Previous Year	Children Ever Born	Children Still Alive	Births Previous Year
Total.....	6,037	9,306	8,988	...	1,541	1,489	...
15 to 19 yrs.	579	111	109	47	192	188	81
20 to 24 yrs.	1,604	1,193	1,166	290	744	727	181
25 to 29 yrs.	1,547	2,234	2,169	240	1,444	1,402	155
30 to 34 yrs.	1,179	2,239	2,194	111	1,899	1,861	94
35 to 44 yrs.	787	2,009	1,939	30	2,553	2,464	38
45 to 54 yrs.	190	746	703	...	3,926	3,700	...
55 to 59 yrs.	49	236	224	...	4,816	4,571	...
60 to 64 yrs.	30	190	179	...	6,333	5,967	...
65 + yrs.....	72	348	305	...	4,833	4,236	...

Source: U.S. Bureau of the Census PC80-1-C/D54, Table 19 and Unpublished Data

The fertility of women born on Guam was higher than for women born elsewhere (Table 5.4). Although all women had 1,712 children ever born per 1,000 women in 1980, those born on Guam had 2,037 children per 1,000 women compared to 1,476 for women born outside Guam. The data for children still alive and children born in the year preceding the census followed the same trend.

Table 5.4. Children Ever Born, Still Alive and Births in the Last Year by Birthplace of Mother: 1980

Fertility	Numbers			Per 1000 Women		
	Total	Born on Guam	Not Born Guam	Total	Born on Guam	Not Born Guam
Females, 15 to 44.....	25057	10523	14534	...	...	...
Children ever born.....	42891	21435	21456	1712	2037	1476
Children still alive.....	41873	20842	21031	1671	1981	1447
Birth in year preceding census.	2809	1224	1585	112	116	109

Source: U.S. Bureau of the Census PC80-1-C/D54, Table 24.

Women who were not in the labor force in 1980 had higher fertility than women who were in the labor force (Table 5.5). Of course, some of the women who were not in the labor force may not have been in the labor force because they were caring for young children. For females 16 years and over, there were 1,791 children ever born per 1,000 women. Women in the labor force had 1,671 children ever born per 1,000 women, compared to 1,930 per 1,000 women not in the labor force, and 1,628 per 1,000 women who were unemployed. Of those women employed in the civilian labor force, those who had worked 35 or more weeks in 1979 had rates of children ever born and still alive per 1,000 women that were 25 percent higher than those who had only worked 1 to 34 weeks, and a rate of children born in the last year that was 34 percent higher than those working fewer weeks. Women in the Armed Forces had the lowest number of children ever born: 468 per 1,000 women.

Table 5.5. Children Ever Born, Still Alive and Births in the Last Year by Labor Force Participation: 1980

Labor Force Participation	Numbers				Per 1000 Women		
	Fe-males	Chldrn Ever Born	Chldrn Still Alive	Born Last Year	Chldrn Ever Born	Chldrn Still Alive	Born Last Year
Females 16-44 years.	23938	42874	41856	2800	1791	1749	117
In Labor Force.....	12828	21433	20999	1147	1671	1637	89
Armed Forces.....	883	413	401	67	468	454	76
Civilian Labor Force...	11945	21020	20598	1080	1760	1724	90
Employed.....	11130	19693	19317	963	1769	1736	87
Worked 35+ weeks...	8471	15550	15249	737	1836	1800	87
Worked 1-34 weeks..	2276	3350	3288	149	1472	1445	65
Unemployed.....	815	1327	1281	117	1628	1572	144
Not in Labor Force.....	11110	21441	20857	1653	1930	1877	149

Source: U.S. Bureau of the Census PC80-1-C/D54, Table 36

Table 5.6 shows ratios of children ever born to children still alive per female by age. The oldest age group of 65 and over produced the highest numbers of children ever born per woman; those age groups who can be assumed to have completed their fertility had an average of over 5 children per woman. They had

the lowest percentages of children still alive, but this should not be considered unusual. Some of the deaths to these children would have happened at early ages, causing mothers to have additional children to replace those who had died, but the majority would have occurred to them as adults, and not occasioned replacement childbearing. The highest ratio of children still alive per female was in the 20 to 24 age group, at 98.4 percent. Since the total number of children ever born per woman has apparently been decreasing for those women who have completed their fertility, from 5.8 per woman for those 65 and older to 4.6 for those 45 to 49, it may be assumed that women in the younger age groups will follow the same trend and will have fewer children ever born at the end of their childbearing years.

Table 5.6 Children Ever Born and Surviving By Age: 1980

Age Group	Females	Children Ever Born	Children Still Alive	Children Ever Born Per Female	Children Still Alive Per Female	Percent Child. Still Alive
15 to 19 yrs.	5,144	613	600	.1	.1	97.9
20 to 24 yrs.	5,089	4,144	4,079	.8	.8	98.4
25 to 29 yrs.	5,130	8,394	8,224	1.6	1.6	98.0
30 to 34 yrs.	4,435	10,865	10,645	2.4	2.4	98.0
35 to 39 yrs.	2,860	9,192	8,959	3.2	3.1	97.5
40 to 44 yrs.	2,399	9,687	9,370	4.0	3.9	96.7
45 to 49 yrs.	2,018	9,259	8,901	4.6	4.4	96.1
50 to 54 yrs.	1,745	9,178	8,756	5.3	5.0	95.4
55 to 59 yrs.	1,280	6,644	6,251	5.2	4.9	94.1
60 to 64 yrs.	919	4,925	4,524	5.4	4.9	91.9
65 yrs & over	1,580	9,143	7,630	5.8	4.8	83.5

Source: U.S. Bureau of the Census PC80-1-B54, Table 15, PC80-1-C/D54, Table 19, and STF3, Table 31

OWN CHILDREN FERTILITY ESTIMATION

Because census data for Guam are collected by household, and the own children method of fertility has been readily available in the Pacific, this method has been used to investigate changing fertility trends on Guam. Other demographic techniques are included where appropriate.

The own children method has been described in earlier publications and needs only to be recapitulated briefly here. (For more detailed accounts, see, for example, Cho 1973, Retherford and Cho 1978, and Cho, Retherford, and Choe 1987; the current version of the own children computer programs uses formulas given in these sources.) The method is a census- or survey-based reverse survival technique for estimating age-specific birth rates for years previous to a census or household survey. Matching of children and mothers was based on a special question on mother's line number or person number on the household schedule, if the mother was present.

The matched (i.e. own) children, classified by child's age and mother's age, are reverse-survived to estimate numbers of births by age of mother in previous years. Reverse survival is also used to estimate numbers of women in previous

years. Since there are no post-enumeration surveys in the American Pacific and no independent estimates of the population exist, no adjustments are made for underenumeration. After adjustments are made for unmatched (non-own) children, age-specific birth rates are calculated by dividing the number of births by the number of women. Estimates are computed for each previous year or group of years back to 15 years before the census. Estimates are not computed further back than 15 years because births must then be based on children at ages 15 or older at enumeration, a large proportion of whom do not reside in the same household as their mother and hence cannot be matched. All calculations are done initially by single years of age and time (years before the census). Estimates for groups of ages or groups of calendar years are obtained by appropriately aggregating numerators and denominators of single-year rates and then dividing the aggregated numerator by the aggregated denominator. For reasons of economy, the method is usually applied to survey samples rather than complete counts, but because the population of Guam is so small, the complete counts were used.

Non-own (unmatched) children are allocated to mothers by multiplying each age-specific category of own (matched) children, specified by mother's age, by the corresponding age-specific ratio of all children to own children. Thus, the number of own children at a given age is adjusted upward by the same factor regardless of mother's age, thereby introducing some error in the fertility estimates since the proportionate distribution of non-own children by age of mother generally differs somewhat from the proportionate distribution of own children by age of mother. It is, of course, impossible to specify non-own adjustment factors by mother's age since the mother of an unmatched child is by definition not in the household. Since older women are usually in more stable household situations than younger women, the nature of the error from not specifying non-own adjustment factors by mother's age is usually to reallocate erroneously a certain proportion of non-own children of a given age from younger mothers to older mothers. This error, if present here, should have little effect on the total fertility rate, but it produces an age pattern of fertility that is too low at the younger ages and too high at the older ages. The error is minor if the adjustment factors for non-own children are low, but sometimes these factors can be quite high. For Guam, in 1980, the factors are indeed low, as can be seen in Table 5.7.

Table 5.7. Percentage Of All Children Who Are Non-own, By Age:1980

Census	Age of Child														
Year	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1980.....	3	4	4	4	4	5	5	6	5	5	6	7	7	8	8

Source: Levin and Retherford, 1986.

Reverse-survival requires life tables. For the 1980 census, the life table was obtained through the use of census questions on number of children ever born and number of children still alive. By means of a method developed by Brass (1975), this child survivorship information was used to obtain estimates of child mortality that were in turn matched to the appropriate level of the Coale-Demeny Model West life table family (Coale and Demeny 1966). (The procedure for obtaining the usual Brass estimates and matching them to Coale-Demeny model life

tables is built into the own-children computing package and was used here; see Midkiff and Choe 1978.) The level obtained in this way specified life tables that were then used to derive reverse-survival ratios. For Guam, Coale-Demeny West Table 23.1 was obtained, which indicated a life expectancy at birth for females of 75.3, the highest in the Pacific Islands (Levin and Retherford 1986:10). Constant mortality was assumed for the entire 15 year period. Although sometimes mortality estimates are too low (and life expectancy too high) because of a tendency for respondents to selectively omit mention of dead children when responding to the child survivorship questions, here the reverse-survival factors are already close to one and are quite insensitive to errors of even several years of life expectancy. Also, it is quite unlikely that women have neglected to mention children who have died.

Own-children estimates of age-specific marital birth rates were obtained in the following way: First, age-specific proportions currently married in five-year age groups were obtained from the 1960, 1970, and 1980 censuses of Guam and linearly interpolated between censuses to get age-specific proportions currently married in five-year age groups in each intercensal year. In this way an array of age-specific proportions currently married, with age in five-year age groups along one dimension, and time in calendar years (or midpoints of time periods) along the other dimension was obtained. The original own-children analysis provided a corresponding array of age-specific birth rates for all women. From these two matrices a third array of age-specific marital birth rates was arrived at by dividing, term by term, the array of age-specific birth rates by the array of age-specific proportions currently married. This calculation assumes that all births occur within marriage.

Marital total fertility rates (but not total fertility rates for all women) pertain only to ages 20 to 49. The MTFR including ages 15 to 19 is not a good measure because it weights the birth rates at age 15 to 19, which is based on relatively few married women on Guam because of moderately late marriage, to the same extent that it weights birth rates at older ages.

Age-specific proportions never married were obtained in the same way as age-specific proportions currently married. First, age-specific proportions never married in five-year age groups were taken from the 1960, 1970 and 1980 censuses of Guam, and then linearly interpolated between censuses to get age-specific proportions never married in five-year age groups at midpoints of intercensal time periods or subperiods. Each set of age-specific proportions never married so derived provided the basis for calculating a value of the singulate mean age at marriage (SMAM), which is used as a summary measure of nuptiality.

The Coale-Trussell m index of marital fertility control was computed (Coale and Trussell 1974, 1975, 1978; a computer program developed by James Trussell at Princeton University's Office of Population Research was used for this purpose). This index measures the deviation from the typical age pattern of natural fertility, defined as fertility in the absence of deliberate family limitation, that results from deliberate family limitation. The m index depends on the shape of the age-specific marital fertility schedule, not on the level of marital fertility. In the natural fertility situation, the shape of the schedule is convex throughout the reproductive ages, whereas in the family limitation situation it is concave at the older reproductive ages. For purposes of constructing the m index, the standard age schedule of natural fertility is obtained as the arithmetic average of 10 of the age-specific natural marital

fertility schedules designated by Henry (1961). If the observed age-specific fertility schedule has the same shape as that of the standard age-specific natural fertility schedule, m = 0. If the observed schedule deviates from the standard schedule by an amount that is the average deviation on 43 reasonably reliable marital fertility schedules in the early 1960s, representing a range of differences in the extent of fertility control, then m = 1. Values of m higher than 1 are also possible.

It should be noted that the own-children fertility estimates are biased by migration, a considerable problem for fertility estimates for Guam. If, before moving, out-migrants have about the same age-specific birth rates as nonmigrants, and if out-migrants take their children with them, then the own-children estimates of age-specific fertility for earlier years, based on nonmigrants present at the time of the census, should be about the same as if the migrants had actually been present. If women who migrate leave their children behind in the temporary care of relatives, however, the own-children fertility estimates will be biased upward, even if out-migrants and nonmigrants have identical age-specific fertility. In this case, the children of migrants are treated as non-own and allocated to reverse-survived nonmigrant women. It is not clear how much of this type of child-leaving was occurring in Guam in 1980.

Results. The total fertility rate for Guam decreased from 4.2 to 3.0 during the 15 year period before the 1980 census (Table 5.8 and Figure 5.1). These rates were the lowest in the Pacific for areas which applied the own-children method (Levin and Retherford 1986). The marital fertility rates showed a similar decrease, from 5.0 to 3.7 during the period, indicating low marital fertility rates, and that most of the fertility was taking place within marriage. Part of the decline can be attributed to a slight increase in the singulate mean age at marriage (SMAM) from 21.1 years to 21.9 years during the period, but a large part of the decline was due to acceptance of family planning, especially prior to 1980. The m index increased from .30 from 1966 to 1970, to .63 between 1971 and 1975, to .92 between 1976 and 1980 (Figure 5.2). Almost all of the decline during the final period is attributable to conscious child limitation (i.e. the closer to 1 that m is, the greater the amount of deliberate child limitation.). By 1979, family planning services were provided not only by the government and voluntary organizations, but also by the military.

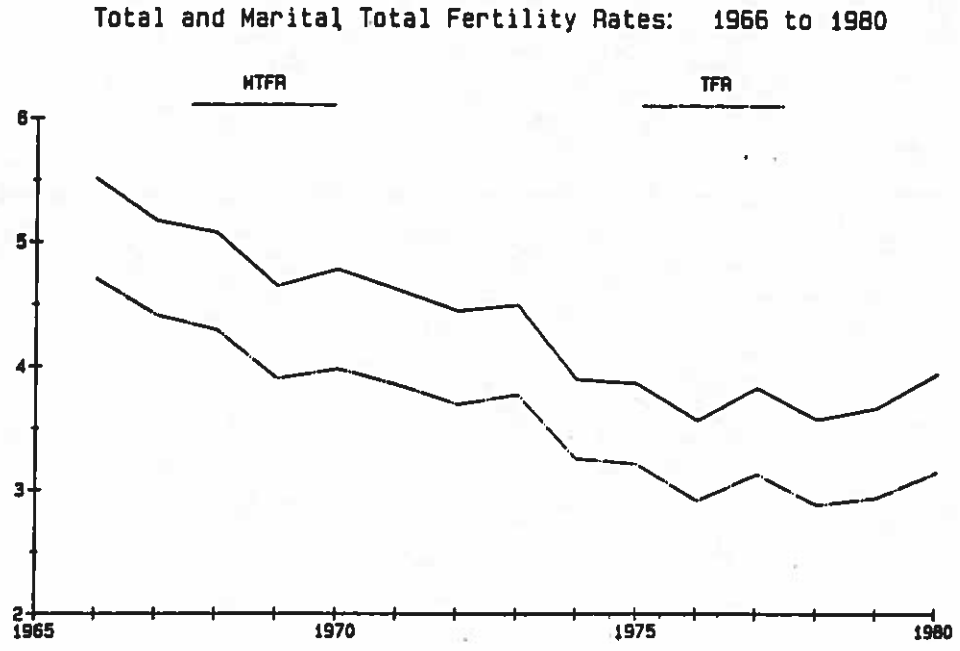
Figure 5.3 shows the age-specific fertility rates for the 1966 to 1970 period and the 1976 to 1980 period. The figure shows that although there has not been noticeable fertility decline for the youngest women, there was noticeable decrease with age for women in the 25 to 29 year age groups and older.

Table 5.8. Total Fertility Rates and Age-Specific Rates, and Marital Total Fertility and Age-Specific Rates, Derived by the Own-Children Method: 1980

Age Group	Total Fertility Rates			Marital Fertility Rates		
	1976-1980	1971-1975	1966-1970	1976-1980	1971-1975	1966-1970
TFR.....	4.24	3.55	3.02	5.02	4.24	3.71
15 to 19 yrs.	57	69	66	494	638	661
20 to 24 yrs.	190	181	171	301	299	296
25 to 29 yrs.	222	188	164	266	231	206
30 to 34 yrs.	177	137	110	203	159	130
35 to 39 yrs.	128	86	64	146	99	75
40 to 44 yrs.	61	39	24	74	47	29
45 to 49 yrs.	11	10	6	14	13	7

Source: Levin and Retherford, 1986, Appendix Tables 1 and 2.

Figure 5.1 Total and Marital Total Fertility Rates:1966 to 1980



The decrease is consistent with increased participation in the labor force, and a general decline in fertility for the Territory as a whole. Data for age-specific marital fertility rates are consistent with this finding.

Vital statistics for Guam from 1980 allow for comparisons with the own-children estimates (Table 5.9). The total fertility rate derived from vital registration, using the 1980 census for denominators, was 3.24, compared to 3.16 for the own-children estimated fertility. The age-specific rates also were very close, although the own-children estimates were very slightly lower. The difference may be attributed to the mortality estimates which could have been influenced by non-reporting of some deaths to children. Ratios greater than 1 can be seen in 2 age groups, 35 to 39 and 45 to 49. In the 35 to 39 year old group, this ratio was most probably caused by age slippage: incorrect reporting of age of women in the two age groups bracketing this one caused children to be "packed" into the 35 to 39 year old group, while the very high ratio at ages 45 to 49 years was caused by the overallocation of non-own children to women at these ages.

Figure 5.2 m-Index of Marital Fertility Control: 1966 to 1980

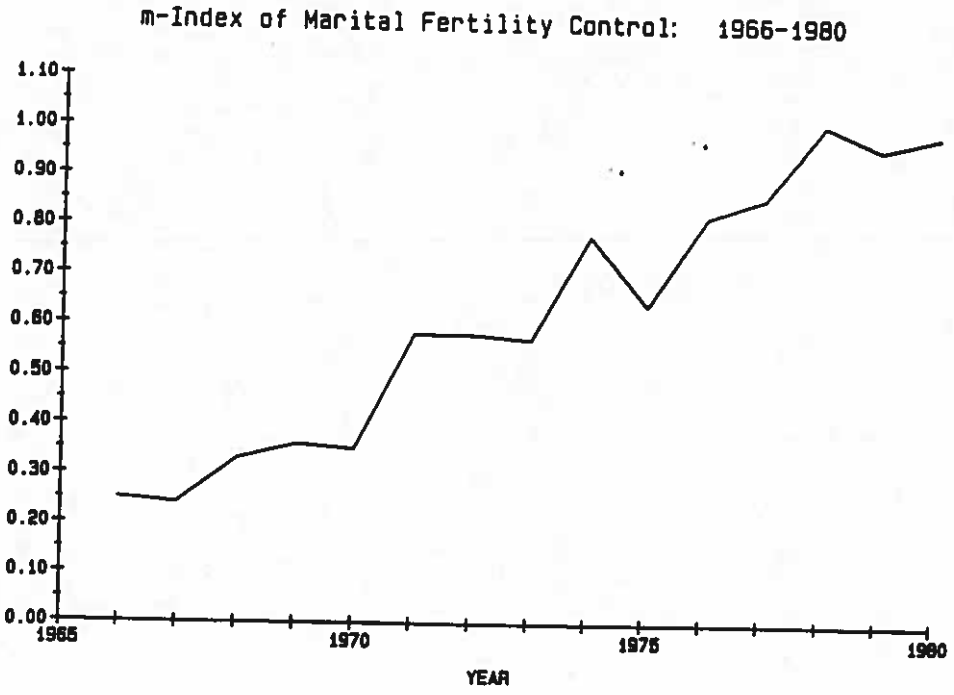


Figure 5.3 Age-Specific Fertility Rates: 1969-73 and 1974-78

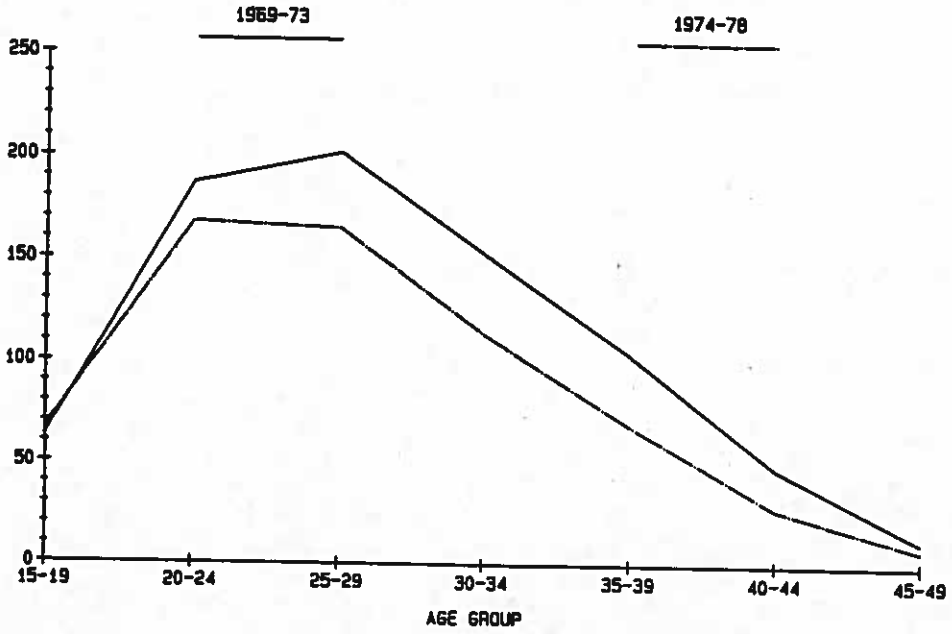


Table 5.9 Ratios of Fertility Estimates Derived by the Own-Children (OC) Method to Fertility Estimates based on Alternative Source(AS)

Year of Estimate	TFR (OC)	TFR (AS)	OC/AS ratios							
				ASFRs						
			TFR	15-19	20-24	25-29	30-34	35-39	40-44	45-49
1980	3.16	3.24	.98	.91	.96	.98	.92	1.11	.96	4.00

Note: Births are from Guam, Department of Public Health and Social Services (1980); numbers of women from the census.
Source: Levin and Retherford, 1986, Table 5

We have presented some preliminary data on fertility estimates using the own-children method of fertility estimation. After the 1990 census it will be possible to look at the overlap between the two censuses to attempt to measure the ability of the census to obtain indirectly estimated measures of fertility.

VITAL STATISTICS

In addition to measures derived from census data, fertility indicators are also computed from vital statistics records. On Guam, unlike many developing countries, vital registration coverage is complete. The measures described in the following section are from the years 1980 through 1985, and are based on populations estimated from the 1980 census base population. While births and deaths are recorded yearly, Guam has no accurate record of migration; the denominators used may be lower than the actual populations.

Table 5.10 shows the number and percent of births by age of mother from 1980 to 1985. As can be expected, females aged 20 to 24 had the highest number and proportion of births in every year, followed by those 25 to 29 years old. The total number of births grew between 1980 and 1981, dropped in 1982, then repeated the increase-decrease cycle between 1983 and 1985. The numbers and percentages of increase/decrease are not large enough to be significant, even for a small population such as Guam's.

Table 5.10. Live Births by Age of Mother: 1980 to 1985

Age	1985	1984	1983	1982	1981	1980
Total.....	3197	3067	3184	2992	3008	3003
Percent.....	100.0	100.0	100.0	100.0	100.0	100.0
15 to 19.....	13.6	15.2	13.4	13.8	14.3	12.8
20 to 24.....	34.4	33.2	34.0	34.7	33.4	32.9
25 to 29.....	27.5	27.0	27.7	27.0	28.6	29.8
30 to 34.....	16.3	16.8	17.0	17.5	17.1	17.2
35 to 39.....	6.8	6.8	6.7	5.7	5.2	5.1
40 to 44.....	1.3	.8	1.1	1.2	1.3	2.0
45 to 49.....	.0	.1	.1	.1	.1	.2
Unknown.....	.1	.3	0.0	.1	.0	0.0

Source: Annual Statistical Reports, Office of Vital Statistics, Department of Public Health and Social Services, Guam

Births by race of child are shown in Table 5.11. The number of births by race each year does not vary greatly, though the proportion of mixed Chamorro births seems to be growing a little each year. Because of the unreliability of ethnicity statistics from the 1980 Census, it was not advisable to attempt to compute birth rates by race of child.

Table 5.11. Live Births by Race of Child: 1980 to 1985

Race	1985	1984	1983	1982	1981	1980
Total.....	3197	3067	3184	2992	3008	3003
Percent.....	100.0	100.0	100.0	100.0	100.0	100.0
Chamorro.....	50.1	49.9	49.6	48.6	47.3	44.3
Chamorro Only...	21.6	23.3	22.3	21.6	21.8	22.9
Chamorro-Other..	10.5	9.9	10.6	9.8	10.2	10.8
Chamorro-Unknown	18.0	16.6	16.6	17.1	15.3	13.4
Filipino.....	14.6	14.0	13.3	15.6	15.4	16.3
Caucasian.....	13.4	14.3	15.5	14.8	16.3	15.4
Micronesian.....	1.8	2.2	1.9	2.2	1.6	2.4
Asian.....	1.0	0.9	1.2	1.1	1.4	1.5
Negro.....	2.4	1.7	2.2	2.0	1.7	1.6
All Other.....	16.7	16.9	16.3	15.6	16.2	15.7
Not Reported.....	0.0	0.2	0.0	0.0	0.1	0.0

Source: Annual Statistical Reports, Office of Vital Statistics, Department of Public Health and Social Services, Guam.

Table 5.12 summarizes fertility indicators for the births from 1980 to 1985. The first fertility indicator is the Crude Birth Rate (CBR); defined as the total number of births per year per 1,000 midyear population in an area. The CBR for Guam ranged from 26.3 births per 1,000 population in 1984 to 28.3 in 1980.

Table 5.12. Fertility Rates Derived From Vital Statistics Data
Guam: 1980 to 1985

Rate	1985	1984	1983	1982	1981	1980
Crude Birth Rate	26.8	26.3	27.9	26.8	27.6	28.3
General Fertility Rate	113.3	111.4	118.4	113.8	116.9	119.2
Total Fertility Rate	3.2	3.0	3.2	3.1	3.1	3.2
Marital Total Fert. Rate	3.8	3.6	3.9	3.2	3.7	3.8
Gen. Marital Fert. Rate	178.8	176.5	188.4	181.9	187.7	193.1
Gen.Legitimate Fert. Rate	124.5	126.8	140.2	137.7	146.3	153.2
Illegitimacy Ratio	260.6	281.7	255.6	206.6	177.2	165.8
Illegitimacy Rate	96.1	100.9	96.3	74.0	64.6	61.1
Gross Reproduction Rate	1550.7	1529.9	1472.3	1497.4	1518.6	1525.4
Net Reproduction Rate	1486.3	1479.7	1580.4	1434.7	1490.5	1509.0
Mean Age of Mother	26.5	26.4	26.7	26.6	25.6	26.5
Mean Length of Generation	26.4	26.4	26.8	26.2	26.6	27.2

Source: Annual Statistical Report, Office of Vital Statistics, Department of Public Health and Social Services, Guam.

The major drawback of the CBR is that it does not take into account the age structure of the population for which it is computed, nor does it confine itself to the population "at risk" of giving birth. One measure that does take age and gender into account is the General Fertility Rate (GFR), which is computed using only the female population 15 to 44 (or 49) as its denominator, while leaving total number of births as the numerator. These values ranged from 111.4 in 1984 to 119.2 in 1980. The GFR ranges from the low 60s to the high 200s in developing countries (Palmore and Gardner, 1983:69); Guam falls into the middle range.

The GFR limits the population more than the CBR does, but can still be affected by the age structure of the female population. The Total Fertility Rate (TFR), a summary measure that uses age-specific birth rates, attempts to eliminate age-structure differences. The TFR estimates the total number of live births 1,000 women would have if they lived through their reproductive years and were subject to a given set of age-specific birth rates. The TFRs shown in Table 5.11 is the average number of live births Guam women would have if they followed Guam's age-specific birth rate schedule, 3.2 in 1983 and 3.1 in 1984. TFRs in the Pacific region computed from census data range from 8.7 for Western Samoa in 1966 to 2.8 for Tuvalu in 1979 (Levin and Retherford, 1986:18).

As most births take place within marriages, rates are available to measure fertility while limiting the population at risk to married women. These are the General Marital Fertility Rate (GMFR), the Marital Total Fertility Rate (MTFR) and the General Legitimate Fertility Rate (GLFR). If compared to the General Fertility Rate and Total Fertility Rate, the "married" rates are higher, but not excessively so, indicating that, on Guam, most of the births do occur within marriages. There are some, however, that do not, as shown by the Illegitimacy Ratio and Illegitimacy Rate. The ratio expresses the proportion of illegitimate

births per 1,000 live births; this ranged from a low of 166 in 1980 to a high of 282 in 1984. Other countries have had rates as low as 12 for Greece in 1961 and as high as 640 for El Salvador in 1961 (Shryock and Siegel, 1976:283). The illegitimacy rate represents illegitimacy in relation to the population at risk of having illegitimate births, and is the number of illegitimate births per year per 1,000 unmarried women. Rates ranged from 61 in 1980 to 101 in 1984.

Reproduction rates tell us whether a population will grow, just replace itself, or decline. The Gross Reproduction Rate (GRR) is the number of female live births 1,000 women are expected to have over their reproductive lifetime, if none of them were subjected to dying. GRRs of 1,000 would mean exact replacement of these women; values higher or lower would mean growth or decline, respectively. The Net Reproduction Rate is similar, but it takes the mortality risk of women in their reproductive years into account. Both rates for females on Guam for all the years covered are at or above 1400, showing that the population is expected to continue growing. The mean length of a generation, computed from data collected for the NRR, tells how many years after birth a woman replaces herself with a female birth. On Guam, this ranged from 26.2 years to 27.2 years.

The mean age of mother is computed to distinguish populations who have their children relatively early in life from those who have them relatively later. It can also show whether women are delaying childbearing. On Guam, it would appear that women are delaying childbearing slightly, but these rates may be affected by the small number of women involved. In 1980, the mean age was 26.5 years; after dipping to 25.6 in 1981, it rose to 26.7 in 1983, then dipped and rose again.

SUMMARY

Fertility on Guam is declining. The number of children ever born for women who have completed their childbearing decreased from 5.8 to 3.6 children per woman in 1980. Except for those age 15 to 19 and 60 to 64 years, civilian women had more children ever born and still alive than did military women. The fertility for women born on Guam was higher than for women born elsewhere; women not in the labor force had higher fertility than those who were in the labor force.

Census methods of measuring fertility showed that fertility on Guam declined between 1965 and 1980, both overall and for married women. Most fertility took place within marriage. There was a slight increase in mean age at marriage, contributing to the decline in fertility. Another contributing factor was the use of family planning. Many women probably delayed childbearing due to labor force participation.

Vital statistics indicators for the past 6 years showed that the fertility decline was continuing, though reproduction rates were still high enough to keep the population growing. While some illegitimacy occurred, most births continued to take place within marriage. The proportion of mixed Chamorro births increased every year; the proportions of births of children of all other races fluctuated from year to year.

We have seen in this chapter two methods of measuring fertility, using census and vital registration data. Both have confirmed that Guam's population will continue to grow through reproductive measures, regardless of other factors, such as migration.

CHAPTER 6
MORTALITY

Mortality describes the risk of dying. Measures of mortality quantify the risks of dying for a population exposed over a period of time. Mortality on Guam has been, for the most part, decreasing since the inception of the U.S. Naval Administration. After Spain ceded Guam to the United States, considerable changes to the islands infrastructure took place. The enhanced quality of life dramatically affected the demographic picture of Guam's population.

More than any other single factor, a healthier environment probably had the most effect on the downward trend of mortality. Despite the recent phenomenal growth in the population from immigration, the quality of life is still conducive to longevity and natural increase. Post-war Guam saw dramatic changes in social and economic structures. Chamorros experienced dramatic transitions that were also occurring on the U.S. mainland.

The 1980 census data did not include questions designed to obtain information on mortality of Guam's population.

MORTALITY CHARACTERISTICS

The system of vital registration, with respect to the recording of deaths, was started by the Spanish government prior to the turn of the century, and was adequate enough to be continued by the then newly-established U.S. Naval Government. With the conversion from the Spanish language to English on the forms, this system continued until mid-1955, after which a standard U.S. registration form was instituted that allowed pre-coded automated tabulation. At any rate, mortality trends for the early part of this century are largely derived from the reporting of deaths by village commissioners to the ministry of civilian affairs, which was responsible for vital registration.

The mortality trend at the beginning of the century can best be described as extreme at certain points, when compared to later periods. Significant events such as the catastrophic typhoon in 1905, and a series of epidemics in 1918 (influenza), 1924 (bacillary dysentery), 1932 and 1934 (measles), and 1936 (whooping cough) contributed to high mortality (Haddock 1973:38). These epidemics resulted in just over 1,000 deaths over a 30 year period.

Despite these events, Guam's Crude Death Rate (CDR) showed a gradual decline beginning in 1910 when sanitary conditions, such as the introduction of piped water to the city of Agana, were improved by the Naval government. In fact, the epidemics had the net effect on the CDR (as it pertained to Guam's aggregate population) of a decline from about 25 to approximately 20 deaths per 1000 persons (Jongstra 1985:82).

Registration of all vital events stopped during World War II, but resumed immediately afterward. Thus, information on vital events that occurred during the war was obtained from survivors, as they best could recall. However, there existed a serious under-registration of deaths for those two and a half years, including deaths that occurred during the liberation of Guam. There were about 1,100 deaths during the two months of liberation (July and August 1944). Subsequent death records show an accumulated total of 1,342 deaths for 1944. The

total deaths for the two months, therefore, accounted for 82 percent of the total deaths (Jongstra 1985:83-84). The number of civilian casualties as opposed to Japanese and U.S. military deaths is undetermined.

The immigrant population has affected the mortality rates during the century because the age and sex distribution of immigrants differs significantly from the native population (see Chapter 7 on Migration). That is, because immigrants tend to be young adult males, the denominators tend to increase while the numerators do not since mortality is rather low for the age groups of migrants; also, there is probably some selection in the migration process - immigrants may be healthier than the sending population in general.

The Crude Death Rate decreased considerably in the 1950s to about 5 per 1000, where it remains. The mortality decline that had set in before World War II did not show any further dramatic decrease after the 1950s.

Infant mortality at the outset of this century was relatively high. The Infant Mortality Rate (IMR) was also affected by the diseases that claimed lives at all other ages until 1950, when modern medical facilities were built. A steady decline in the IMR is consistent with an overall reduction of mortality during this period, from about 200 deaths per 1000 live births in 1902 to about 30 per 1000 in 1950. Near the end of 1950, Guam's administration became civilian, resulting in some under-registration for 1951, and showing a sharp dip in rates (Figure 6.1). Except for this one aberration, Infant Mortality Rates continued to decrease gradually, although more slowly than before, until they reached the current value of about 10 infant deaths per 1000 live births.

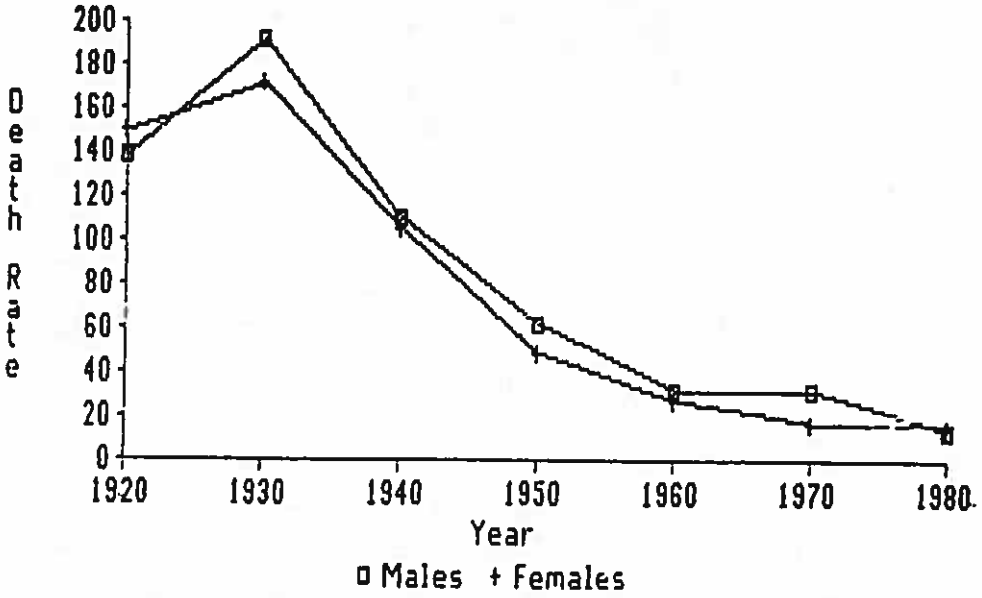
The age and sex distribution of mortality clearly shows fundamental changes in the pattern of mortality that occurred between 1920 and 1980 (Jongstra 1985: 85). The values for 1920 in Tables 6.1 and 6.2 particularly suffer from an upward bias, due to the inclusion of deaths resulting from the influenza epidemic that swept Guam in November and December 1918. Jongstra further notes that the bias is not as strong as might be expected, since it was partly compensated for by the low mortality that characterizes the vital statistics of 1919 and 1920. Relatively low mortality can still be noted from the age specific mortality rates in 1930 for the higher age groups. Around 1940, a similar, although less dramatic, situation existed as the result of an epidemic of whooping cough in 1938. For 1970, some deviations from the general mortality decline appeared which can be attributed to deaths among persons returning from Vietnam (Jongstra 1985: 85).

Table 6.1 Age-Specific Mortality Rates For Males: Guam: 1920 to 1980
(Rates per 1000)

Males Age Group	Year 1920	1930	1940	1950	1960	1970	1980
Under 1..	138.9	191.8	109.8	60.9	31.0	31.1	13.6
1 to 4...	59.5	47.8	12.5	4.5	1.4	1.6	.7
5 to 9...	13.1	5.1	2.1	1.2	.6	.4	.4
10 to 14.	4.4	1.5	1.1	.5	.6	.9	.3
15 to 19.	11.8	3.5	1.8	.8	1.8	3.9	1.3
20 to 24.	12.0	5.0	6.0	1.2	2.3	2.7	2.2
25 to 29.		4.1	4.5	1.5	1.3	2.3	2.1
30 to 34.	12.9	5.2	7.1	1.9	2.1	2.5	2.3
35 to 39.			11.3	3.5	1.4	2.9	1.8
40 to 44.	30.4	10.5	17.9	4.3	4.0	5.7	3.9
45 to 49.			18.2	9.7	7.3	5.9	7.4
50 to 54.	52.1	17.2	26.7	10.9	12.2	11.5	10.9
55 to 59.			18.8	11.8	19.7	20.7	14.1
60 to 64.	112.4	28.6	33.5	28.8	29.1	38.1	26.8
65 to 69.	351.4		56.0	38.2	43.4	40.1	35.7
70 to 74.		59.3	72.3	55.6	48.4	89.6	42.5
Over 75..		147.1	173.7	98.6	142.2	83.3	86.5

Note: For 1920 and 1930, some data collected for 10-year age groups only.
Source: Eduard Jongstra, Unpublished Master's Thesis, State University of Groningen, The Netherlands, 1985; Office of Vital Statistics, Department of Public Health and Social Services, Guam

FIGURE 6.1 INFANT DEATHS PER 1000 BIRTHS
GUAM: 1920 TO 1980



The age group 1 to 4 years old experienced the biggest decrease in mortality rates. Between 1920 and 1980, mortality rates of children 1 to 4 decreased by 99 percent. All other groups, but particularly those less than 20 for males and less than 45 for females, also showed dramatic decreases in mortality. For females, this improvement in life expectancy was demonstrated in the childbearing ages. Table 6.2 shows that until 1960, female mortality between ages 15 and 40 was higher than for males in that age range. Between 1950 and 1986, this situation appears to have reversed. Better health care around the time of child delivery undoubtedly contributed to this change.

Table 6.2 Age-Specific Mortality Rates For Females, Guam: 1920 to 1980
(Rates per 1000)

Females	Year						
Age Group	1920	1930	1940	1950	1960	1970	1980
Under 1..	149.3	171.0	104.8	48.9	26.6	17.3	15.1
1 to 4...	55.8	47.5	14.1	3.3	1.2	1.4	.5
5 to 9...	12.0	5.5	1.5	.8	.7	.4	.3
10 to 14.	4.0	2.5	1.2	1.4	.6	.5	.1
15 to 19.	11.5	4.9	2.9	2.7	.3	.7	.7
20 to 24.	13.3	10.2	6.8	3.0	.8	.9	.7
25 to 29.		12.0	5.7	1.6	1.2	.7	1.0
30 to 34.	21.6	6.7	9.9	3.9	.5	.6	.5
35 to 39.			10.3	4.8	2.0	1.4	1.6
40 to 44.	20.8	10.3	9.8	5.9	3.8	2.1	1.5
45 to 49.			8.1	10.0	5.3	6.0	1.8
50 to 54.	44.3	18.3	8.9	11.0	9.0	5.5	5.7
55 to 59.			16.0	12.2	7.6	13.2	8.8
60 to 64.	102.5	22.4	24.0	22.2	17.3	17.6	13.4
65 to 69.	267.7		25.2	28.2	23.5	26.5	26.1
70 to 74.		49.3	65.6	44.4	58.4	52.4	38.4
Over 75..		68.6	152.1	77.8	86.4	94.9	80.9

Note: Some data for 1920 and 1930 collected for 10-year age groups only.
Source: Eduard Jongstra, Unpublished Master's Thesis, State University of Groningen, The Netherlands, 1985; Office of Vital Statistics, Department of Public Health and Social Services, Guam.

VITAL STATISTICS DATA

For the period 1978 to 1982 (Table 6.3), more deaths were reported in the age group 45 to 64 than in any other age group. About 30 percent of all deaths in every year occurred in this age group. This age group also showed just over twice the number of deaths that occurred in the next youngest age group of 25 to 44 years.

Table 6.3 Distribution of Deaths by Age: 1978 to 1982

Age at Death	1978	1979	1980	1981	1982
Total deaths...	424	377	422	406	443
Less than 1 year..	46	33	49	32	34
1 to 4 years.....	11	9	5	3	10
5 to 14 years.....	10	4	11	4	6
15 to 24 years....	39	31	25	26	14
25 to 44 years....	65	50	58	51	45
45 to 64 years....	125	120	126	125	141
65 to 74 years....	60	63	82	91	93
75 to 84 years....	51	52	42	46	75
Over 85 years.....	17	15	24	28	25

Source: Annual Statistical Report, Office of Vital Statistics, Department of Public Health and Social Services, Guam.

Between 1978 and 1981, the death rates for infants (those less than 1 year of age) experienced peaks and troughs before stabilizing in 1982. However, the percent distribution for the five years was fairly level, with the highest percentage reported at 11.6 in 1980, and the lowest at 7.7 percent in 1982 (Table 6.4).

Table 6.4 Percent Deaths by Age: 1978 to 1982

Age at Death	1978	1979	1980	1981	1982
Total deaths...	100.0	100.0	100.0	100.0	100.0
Less than 1 year..	10.8	8.8	11.6	7.8	7.7
1 to 4 years.....	2.6	2.4	1.2	.7	2.3
5 to 14 years.....	2.4	1.1	2.6	1.0	1.4
15 to 24 years....	9.2	8.2	5.9	6.4	3.2
25 to 44 years....	15.3	13.3	13.7	12.6	10.2
45 to 64 years....	29.5	31.8	29.9	30.8	31.8
65 to 74 years....	14.2	16.7	19.4	22.4	21.0
75 to 84 years....	12.0	13.8	10.0	11.3	16.9
Over 85 years.....	4.0	4.0	5.7	6.9	5.6

Source: Annual Statistical Report, Office of Vital Statistics, Department of Public Health and Social Services, Guam.

Moreover, the distribution of infant deaths between sexes (Table 6.5) shows an alternating pattern over the five years, beginning with 1978, where males showed a total of 27 deaths, and females 19. For the following year, 1979, the reverse is evident, with males showing a total of 11 deaths and females 22. The situation again reversed itself in 1980, with males having 30 deaths and females with 19. This switching back and forth continued for the next 2 years, with neither males nor females having a dominant trend in numbers of infant deaths.

Table 6.5 Deaths by Age and Sex: 1978 to 1982

Age at Death	1978		1979		1980		1981		1982	
	Male	Fmle	Male	Fmle	Male	Fmle	Male	Fmle	Male	Fmle
Total...	274	150	233	144	263	159	242	164	251	192
Under 1 yr	27	19	11	22	30	19	13	19	19	15
1 to 4....	3	8	7	2	2	3	1	2	6	4
5 to 14...	7	3	2	2	9	2	2	2	2	4
15 to 24..	33	6	19	12	20	5	22	4	11	3
25 to 44..	46	19	34	16	44	14	34	17	33	12
45 to 64..	86	39	89	31	86	40	86	39	91	50
65 to 74..	31	29	36	27	46	36	53	38	50	43
75 to 84..	32	19	27	25	18	24	23	23	33	42
Over 85...	9	8	8	7	8	16	8	20	6	19
Total	64.6	35.4	61.8	38.2	62.3	37.7	59.6	40.4	56.7	43.3
Under 1 yr	6.4	4.5	2.9	5.8	7.1	4.5	3.2	4.7	4.3	3.4
1 to 4....	.7	1.9	1.9	.5	.5	.7	.3	.5	1.4	.9
5 to 14...	1.7	.7	.5	.5	2.1	.5	.5	.5	.5	.9
15 to 24..	7.9	1.4	5.0	3.2	4.7	1.2	5.4	1.0	2.5	.7
25 to 44..	10.8	4.5	9.0	4.2	10.4	3.3	8.4	4.2	7.4	2.7
45 to 64..	20.1	9.2	23.6	8.2	20.4	9.5	21.2	9.6	20.5	11.3
65 to 74..	7.3	6.8	9.5	7.2	10.9	8.5	13.1	9.4	11.3	9.7
75 to 84..	12.0	4.5	7.2	6.6	4.3	5.7	5.7	5.7	7.4	9.5
Over 85...	2.1	1.9	2.1	1.9	1.9	3.8	2.0	4.9	1.4	4.3

Source: Annual Statistical Report, Office of Vital Statistics, Department of Public Health and Social Services, Guam.

Racial distribution of deaths for the five-year period of 1978 to 1982 (Table 6.6) indicates that in 1978 Chamorro deaths were almost 6 times greater than the next highest racial group, Caucasians. For 1979, Chamorros accounted for 64 percent of all deaths - just over 5 times more than the deaths of the next highest race, Filipinos. In 1980, Chamorros were 61 percent of all deaths, with Filipinos second at 15 percent of deaths. Chamorro deaths were over 4 times higher than Filipino deaths that year.

Table 6.6 Deaths by Race: 1978 to 1982

Race	Number					Percent				
	1978	1979	1980	1981	1982	1978	1979	1980	1981	1982
Total...	424	377	422	406	443	100.0	100.0	100.0	100.0	100.0
Chamorro..	278	242	256	249	306	65.6	64.2	60.7	61.3	69.1
Filipino..	39	46	62	57	54	9.2	12.2	14.7	14.0	12.2
Caucasian.	50	44	45	47	40	11.8	11.7	10.7	11.6	9.0
Micronesn.	32	26	36	23	25	7.5	6.9	8.5	5.7	5.6
Asian.....	14	12	16	22	9	3.3	3.2	3.8	5.4	2.0
All Others	10	6	7	8	9	2.4	1.6	1.7	2.0	2.0
Not Reptd.	1	1	0	0	0	.2	.3	0.0	0.0	0.0

Source: Annual Statistical Report, Office of Vital Statistics, Department of Public Health and Social Services, Guam.

In the previous three years, 1978 to 1980, it appeared that Chamorro deaths were on the decline, but in 1981, figures rose appreciably, to 61 percent of deaths, then dramatically in 1982, to 69 percent of deaths.

Percentages show that the racial groups, other than Chamorros, were relatively stable in their respective proportions of deaths for the five-year period.

In relation to the age structure, 4 percent of the total Chamorro population were of persons 65 years and older in 1980 (Table 6.7). By contrast, this same age group contributed 47 percent of all Chamorro deaths that year. The next two younger age categories (55 to 64 years and 45 to 54 years) had the next highest percentages of deaths at 18 and 10 percent, respectively. (Table 6.8). As with the first age groups, the latter two age groups were also small in their percentage of population distribution; 4 percent for the group 55 to 64 years, and 7 percent for those 45 to 54 years.

Table 6.7 Age by Race: 1980

Age Group	Total	Cham-orro	Fili-pino	White	All Others	Not Rptd
All ages.....	105979	47845	22447	19751	8786	7150
Percent.....	100.0	100.0	100.0	100.0	100.0	100.0
Less than 5 yrs...	12.3	13.2	11.0	12.9	10.3	10.8
5 to 14 yrs.....	22.6	28.4	19.4	16.2	18.4	16.6
15 to 19 yrs.....	10.4	13.2	7.8	7.9	8.0	9.4
20 to 24 yrs.....	10.5	8.3	6.4	18.4	8.5	18.7
25 to 34 yrs.....	18.5	13.6	18.7	26.0	23.8	23.5
35 to 44 yrs.....	10.7	8.3	12.8	11.2	16.4	11.6
45 to 54 yrs.....	7.7	7.1	12.1	4.2	9.8	5.1
55 to 64 yrs.....	4.5	4.3	8.1	2.2	3.7	2.7
65 yrs. and older.	2.8	3.6	3.8	.9	1.2	1.6

Source: U.S. Bureau of the Census PC80-1-C/D54, Table 21

By comparison, Filipinos aged 65 years and older constituted about the same proportion of their ethnic group as did Chamorros, 4 percent. Likewise, the same observation as with Chamorros can be made in regard to deaths, since Filipinos in the age group 65 and older had the highest percentage of total deaths. The next lower age groups, 55 to 64 years, also had the next highest percentage of total deaths with 19. However, Filipinos in the age groups 5 years and under, with a slightly lower percentage of 18, were the third highest in total deaths.

The inverse correlation between the relatively small proportion of persons in the oldest age group and the higher proportion of deaths attributed to that age group is understandable because older people are more prone to disease, particularly chronic disease, than younger people. Two prominent factors that bear upon this demographic phenomenon are poor environmental and sanitation conditions that existed before 1950, and the lack of proper nutrition, especially during the Japanese occupation of Guam. At least with those 65 years and older in 1980 - that is, those born in 1915 or earlier - these factors would presumably contribute to their deaths; however, only an analysis of cause of death variables will give greater credence to this assumption.

In 1980, children less than 5 years old were only 9 percent of all Chamorro deaths, while Filipinos had twice that percentage (18 percent) (Table 6.8). Deaths to Whites less than 5 years old were only a little lower (16 percent), and "All Others" showed 22 percent. As these data do not separate infant (less than 1 year) deaths from other deaths to those less than 5 years, it is not known what proportion infant deaths contribute to all deaths in this age group.

In other age groups, specifically those 25 to 34 years and 55 to 64 years, Whites showed a high percentage in comparison to the other racial groups. Nearly 18 percent of deaths to Whites in 1980 were to those 25 to 34 years old, which was nearly treble the figure for Filipinos or Chamorros. Moreover, in the age group 55 to 64 years, Whites had the highest percentage, at 20 percent. These high proportions, however, may be a result of the small numbers of Whites, rather than a true picture of Whites' mortality.

Table 6.8 Deaths by Race and Age: 1980

Age Group	Total	Cham-orro	Fili-pino	White	All Others
All ages.....	422	256	62	45	59
Percent.....	100.0	100.0	100.0	100.0	100.0
Less than 5 yrs...	12.8	9.0	17.7	15.6	22.0
5 to 14 yrs.....	2.6	1.6	3.2	2.2	6.8
15 to 19 yrs.....	2.4	2.0	3.2	2.2	3.4
20 to 24 yrs.....	3.6	3.1	1.6	6.7	5.1
25 to 34 yrs.....	7.8	5.5	4.8	17.8	13.6
35 to 44 yrs.....	5.9	4.3	8.1	8.9	8.5
45 to 54 yrs.....	11.4	10.2	11.3	11.1	16.9
55 to 64 yrs.....	18.5	18.0	19.4	20.0	18.6
65 yrs. and older.	35.1	46.5	30.6	15.6	5.1

Source: Annual Statistical Report, Office of Vital Statistics, Department of Public Health and Social Services, Guam.

It is not known whether the data in Table 6.8 discussed in the preceding paragraphs are anomalies for the year 1980, or if they represent a trend in deaths by age and race. In any event, these tabulations indicate areas which might interest health researchers as well as demographers.

LEADING CAUSES OF DEATH

In the period 1981 to 1985 (Table 6.9) the two leading causes of death on Guam were heart disease and cancer, which placed first and second, respectively. These diseases accounted for 880 deaths (572 heart disease related deaths and 308 cancer related deaths) in the five-year period. Cerebrovascular diseases ranked third in 1981, 1982, and 1985, and fourth in 1983 and 1984. In total, cerebrovascular diseases accounted for 139 deaths in the period, making it the third leading cause of death on Guam.

Other leading causes for the same period were motor vehicle accidents with 107 deaths, which placed it fourth overall, "other accidents" (drowning, electrocutions, etc.) at 104 deaths, and diabetes at 95 deaths.

Table 6.9 Leading Causes of Death: 1981 to 1985

Cause of Death	Totl	Rnk	1981	Rnk	1982	Rnk	1983	Rnk	1984	Rnk	1985	Rnk
All Causes....	2202	...	406	...	443	...	462	...	450	...	441	...
Diseases of Heart.	572	1	96	1	116	1	137	1	113	1	110	1
Neoplasms (Cancer).	308	2	58	2	64	2	60	2	60	2	66	2
Cerebrovsclr Dis. .	139	3	31	3	25	3	22	4	30	4	31	3
Othr Disease of Cntrl Nervous System...	83	7	12	7	24	4	15	9	15	8	17	8
Diabetes Mellitus....	95	6	11	9	17	5	15	8	30	3	22	4
All Other Accidents..	104	5	26	4	16	6	18	5	23	6	21	6
Chronic Liver Disease and Cirrhosis....	40	10	14	6	15	7	...	...	11	9	...	...
Motor Vehicle Acc.	107	4	21	5	11	8	29	3	25	5	21	5
Pneumonia.....	46	8	...	...	10	9	17	6	...	...	19	7
Suicide.....	20	...	...	...	9	10	...	...	...	...	11	10
Homicide.....	46	8	12	8	..	...	16	7	18	7	...	...
Perinatal Cond.....	30	...	9	10	...	...	12	10	9	10	...	...
Congenital Anomalies	12	..	...	...	...	...	...	...	...	...	12	9
All Other Causes...	600	...	116	...	136	...	121	...	116	...	111	...

Note: Rank order is for top ten causes only.
"..." Not included in top ten causes.
Source: Annual Statistical Reports, Office of Vital Statistics, Department of Public Health and Social Services, Government of Guam.

At the present time, the Office of Vital Statistics does not report statistics on cause of death by race, sex, or age. These variables can be obtained, and in fact, it is anticipated that the compilation, analysis, and tabulation of such variables will be accomplished in the latter part of 1988; these statistics will be maintained thereafter.

LIFE TABLE ANALYSIS

Abridged life tables for Guam that were done for the period 1969 to 1971 and 1979 to 1981 (Flores), show that life expectancy at birth for both sexes combined increased by 5.8 years, from 66.5 in the first life table period to 72.3 years in the second (See Appendix D). This increase in life expectancy is attributable to the establishment of social and public health programs aimed at specific age groups such as mothers and infants. From their inception in the late 1960s and early 1970s, such programs proved to be beneficial to Guam's overall population in terms of public education and public assistance - target groups were then able to improve their quality of living by altering their diets and availing themselves of the improved medical and public health facilities and services.

In comparing both sexes, it is interesting to note that although females at birth had a better life expectancy (72.5 years for 1969-71 and 75.6 years for 1979-81 compared to 64.4 and 69.5 years for males for the same periods), in the ten years between the two life tables female life expectancy improved by 3.1 years, compared to 5.2 years for males.

Life expectancy of women in the childbearing years (15 to 45 years of age) improved by an average of 2.5 years. In some age categories the tables showed more improvement in life expectancy overall for males than for females; 3.1 years at age 25 for males as compared to 2.4 years for females; 3.1 years at age 35 for males to 2.5 years for females; 2.9 years at age 55 for males as compared to 1.9 years for females are some examples.

However, in other age categories the tables show that females aged 75 showed an increase of 4.0 years in ten years as compared to males with only 1.1 years increase. At age 85, males showed a decrease in life expectancy of 1.8 years, whereas females increased by 1.0 years.

Life tables were constructed for the "Chamorro-Guamanian" and "Non-Chamorro-Guamanian" components of the population of Guam by Taylor (1985) (Appendix D), and reveal higher mortality in the "Chamorro-Guamanian" population than in the total population for 1979-81. The life expectancy at birth of the "Chamorro-Guamanian" population in this table was 69.5 years; for the "Non-Chamorro-Guamanian" it was 74.9 years. The differences in life expectancy between these two populations of 5.4 years was all attributable to differences in adult mortality (age greater than 15 years). "Ethnic differences in age-specific death rates were most marked between age 25-35 years, although higher mortality in "Chamorro-Guamanian" compared to others persisted through middle age." (Taylor, 1985:37)

In general, male life expectancy on Guam is increasing more quickly than female, although the reasons are only speculative. Finally, Guam, in comparison to other Pacific Island populations, has the highest life expectancy at birth: 73 years, with American Samoa second at 70 years (as reported for 1978-82) (South Pacific Commission, 1987). It appears that where health systems are heavily financed from external sources, such as in Guam and American Samoa, life expectancy figures rise into the high 60s and low 70s, and IMRs of less than 20 occur.

SUMMARY

In summary it might be said that improved living conditions were significant factors in bringing mortality levels on Guam to one of the lowest in the Pacific region. However, it can also be said that, at least where Chamorros are concerned, many deaths are probably due to the change in lifestyle, with chronic disease and cancer taking a preponderance of lives in the later age groups, 45 years and over. It is in this age group that many tend to become sedentary and are more prone to stress and chronic alcoholism.

The decline in mortality on Guam actually began during the first three decades of this century. This is, to a large extent, despite the characteristics of the Chamorro population, which, by most measures, indicate a slightly higher level of mortality than other racial groups on Guam. But the increasing differences between life expectancies at birth for Chamorro males and females appear to indicate that the decline in mortality has come to an end, at least as far as the Chamorro male population is concerned.

Female life expectancy seems to have remained fairly constant at about 75 years. The persistence of the sex differential in life expectancy, past and present, is a consequence of the differences in adult life expectancy.

A final word on death by cause is given as a recommendation for vital registration data:

> "Although the 'Top Ten' causes of death for all ages and both sexes combined gives some information on the main health problems in the Guam population it makes more sense to separate cause of death data by major age group (and also by sex for adults) because there are significant differences between the various subgroups..."

> "Although such a summary tabulation provides more information than the 'Top Ten' causes of death with all ages and both sexes lumped together, the deaths are not 'weighted' by the age at which they occur. Particularly from an economic perspective, premature death in working age adults (age 15 to 64) needs to be 'age weighted'. This can be achieved by calculating the years of life lost by cause." (Taylor, 1985:50)

CHAPTER 7
MIGRATION

In Chapters 5 and 6 we discussed two basic components of population growth, fertility and mortality. The other basic factor of population growth is migration. The measurement of migration is more complex than the measurement of fertility and mortality. The reasons for this are obvious. Mortality is purely a biological phenomenon - favorable socio-economic climate and medical/health care can postpone it but cannot stop it. Fertility, which can now be controlled, reflects the levels of material wellbeing of a population, and is also a biological phenomenon, affected by individual and societal needs, level of scientific knowledge and economic status. The problems of measurement of fertility and mortality arise basically because of lack of reliable data of vital events.

Migration, on the other hand, is a socio-economic phenomenon which is a result of a complex mechanism involving social, psychological, economic, political, institutional and other determinants. Migration affects the size, structure, and growth of populations; it has produced remarkable alterations in the structure and distribution of the population of Guam.

Migration also affects the size of the labor force, the distribution of labor force by skill, education, industry and occupation, employment status, savings, investment and productivity, and as a factor that has social and psychological bearings on the communities at both the origin and destination of the migrants.

Migration involves change from a usual place of residence. Migration can be internal (within the national or territorial boundaries) or international (across international borders). A migrant who travels from an area of origin to a destination is an immigrant or inmigrant with respect to the area of destination, and an emigrant or outmigrant with respect to place of origin (in each case, the former term used for international migration, the latter used for internal migration).

PLACE OF BIRTH

Data on Place of Birth were derived from answers to question 10.

Respondents were instructed to report place of birth in terms of mother's usual place of residence at the time of the birth rather than in terms of place of location of the hospital if the birth occurred in a hospital. In this report, the population is classified in the following groups: persons born on a selected island in the Pacific, persons born in the United States, and persons born elsewhere. Persons born elsewhere were asked to report country of birth according to international boundaries recognized by the United States government on April 1, 1980 since boundaries of foreign countries have changed in the last century. Some of these persons may have reported their country of birth in terms of boundaries that existed at the time of their birth or immigration, or in accordance with their own national preference. Selected countries of birth are shown here.

Place of birth was not allocated for Guam. Persons not reporting place of birth are shown separately in the tables under "Place of birth not reported".

CITIZENSHIP AND YEAR OF IMMIGRATION

Data on citizenship and year of immigration were derived from answers to questions 11 and 12. Persons who were born in Puerto Rico, Guam, or the Virgin Islands of the United States, or born abroad or at sea and who had at least one parent who was a U.S. citizen were to report themselves as a U.S. Citizen.

Citizenship. Information on citizenship was used to classify the population of Guam born outside Guam or the United States into four major categories: naturalized citizens of the United States, permanent U.S. aliens (visa), temporary U.S. aliens (work permit), and other U.S. citizens. A similar question on citizenship was asked in 1970.

If citizenship was not reported, a response was assigned by computer using the responses of other persons based on year of immigration and country of birth.

Year of immigration. Persons born outside Guam were to indicate in question 12 the period which included the year they came to stay permanently on Guam. A question on year of immigration was asked in 1970. If year of immigration was not reported, a response was assigned using responses of other persons based on age and place of birth.

PLACE OF BIRTH OF PARENTS

The data on place of birth of parents were derived from the answers to questions 13 and 14. These questions were asked for the first time in the 1980 census. Information on place of birth of parents was used to classify the population of Guam according to the place where the person's parents were born.

Persons with one or both parents born elsewhere were asked to report the country of birth according to international boundaries as recognized by the United States government on April 1, 1980. Place of birth of parents was not allocated for nonresponse. Selected areas of birth are shown here.

RESIDENCE IN 1975

The data on residence in 1975 were derived from answers to questions 15a, 15b, and 15c. Persons living on Guam or one of the areas listed in question 15b in 1975 were asked to report the village or major island or atoll, or U. S. state. Persons living elsewhere were asked to report the foreign country in which they were living. Residence in 1975 was used in conjunction with current residence to determine the extent of residential mobility of the population. When no information on residence in 1975 was collected for a person, information for other members was used, if available. All cases of no response, or incomplete response not assigned based on information from other family members, were shown separately as "Residence in 1975 not reported."

The number of persons who were living in a different house in 1975 was somewhat less than the total number of moves during the 5 year period. Some persons in the same house at the two dates had moved during the 5 year period but by the time of enumeration had returned to their 1975 residence. Other persons who were living in a different house had made one or more intermediate moves. For similar reasons, the number of persons living in a different Election District may have been underestimated.

Similarly, questions on mobility were asked in the 1970 census; however, in the 1970 census the questions did not ask for residence in the specific village on Guam as did question 15c in the 1980 census. Data by village were not tabulated.

PLACE OF BIRTH CHARACTERISTICS

Almost half of the 105,979 persons living on Guam in 1980 were born on Guam. After the Guam-born, the next largest part of the population were born in the U.S. (about 1 in 5), followed by persons born in Asia (also 1 in 5). Most (about 3 in every 4) of the Asia-born were born in the Philippines; in fact, about 1 in every 6 persons living on Guam in 1980 were born in the Philippines. While about 2 percent of Guam's 1980 population was born in the Northern Mariana Islands, less than 1 percent was born in Palau, and even smaller numbers had been born in the other areas of the Trust Territory.

The largest number of persons of each sex were born on Guam, but greater proportions of females were born here (52 percent) than males (46 percent). The United States was the second most popular male birthplace (24 percent), while Asia was third (21 percent); this order was reversed for females. In fact, while about 1 in every 4 males were born in the United States, less than 1 in 5 of the females were born there.

Table 7.1. Birthplace by Sex: 1980

Birthplace	Numbers			Percent		
	Total	Males	Females	Total	Males	Females
Total	105979	55321	50658	100.0	100.0	100.0
Guam	52113	25594	26519	49.2	46.3	52.3
Northern Mariana Islands	2124	999	1125	2.0	1.8	2.2
Asia	22648	11491	11157	21.4	20.8	22.0
Philippines	16998	8985	8013	16.0	16.2	15.8
United States	22950	13451	9499	21.7	24.3	18.8
Palau	921	391	530	.9	.7	1.0
Marshall Islands	39	19	20	.0	.0	.0
Federated States of Micronesia	436	237	199	.4	.4	.4
Kosrae	65	48	17	.1	.1	.0
Pohnpei	111	51	60	.1	.1	.1
Truk	121	68	53	.1	.1	.1
Yap	139	70	69	.1	.1	.1
Elsewhere	1477	693	784	1.4	1.3	1.5
Place of Birth Not Reported	3271	2446	825	3.1	4.4	1.6

Source: U.S. Bureau of the Census PC80-1-C/D54 1980, Table 24

When persons born in Guam are excluded, a clearer picture of the immigrants emerges (Table 7.2 and Figure 7.1). As noted above, more than half of the population of Guam was born outside Guam. Most were born in the U.S. (43 percent) or Asia (42 percent). Males followed the pattern of the total population, but the distribution of birthplaces for females differed: Asia was the most common non-Guam birthplace (46 percent), with the U.S. second (39 percent). Over 2 percent of females were born in Palau, but only 1 percent of males had been; a

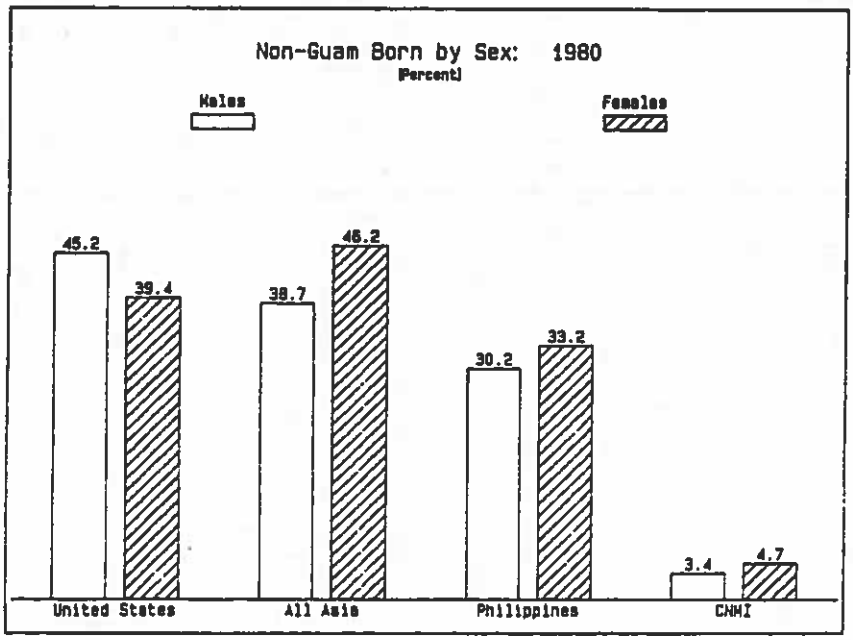
higher percentage of females had been born in the CNMI (5 percent) than had males (3 percent).

Table 7.2. Birthplace by Sex for the Non-Guam Born: 1980

Birthplace	Numbers			Percent		
	Total	Males	Females	Total	Males	Females
Total	105979	55321	50658	100.0	100.0	100.0
Guam	52113	25594	26519	...	...	...
Northern Mariana Islands	2124	999	1125	3.9	3.4	4.7
Asia	22648	11491	11157	42.0	38.7	46.2
Philippines	16998	8985	8013	31.6	30.2	33.2
United States	22950	13451	9499	42.6	45.2	39.4
Palau	921	391	530	1.7	1.3	2.2
Marshall Islands	39	19	20	.1	.1	.1
Federated States of Micronesia	436	237	199	.8	.8	.8
Elsewhere	1477	693	784	2.7	2.3	3.2
Place of Birth Not Reported	3271	2446	825	6.1	8.2	3.4

Source: U.S. Bureau of the Census PC80-1-C/D54 1980, Table 24

Figure 7.1 Non-Guam Born by Sex: 1980



Birthplace by military status and sex is shown in Table 7.3 and Figure 7.2. Nearly 60 percent of the civilian population was born on Guam, followed by Asia (24 percent). Just over 10 percent of the military population had been born on Guam. Almost 65 percent of the military population was born in the U.S. compared to 10 percent of the civilian population. Although almost 1 in 4 of the civilians were born in Asia, this was true for only 1 in 8 of the military. Similarly, the percentage of Philippines born civilians (18 percent) was twice (9 percent) that of the military. Also, although CNMI born made up 2.5 percent of the civilians, they were only .3 percent of the military, perhaps not surprising since they were not yet American citizens and thus had difficulty enlisting in the military.

There were differences for birthplace by sex in 1980. Although 58 percent of the civilian males were born on Guam, more than 61 percent of the females were in this category. On the other hand, 19 percent of the civilian males were Philippines born compared to 17 percent of the civilian females; the civilian United States percentages were 11 and 9, respectively. For the military, 8 percent of the males and 13 percent of the females were born on Guam, compared to 67 percent of the males and 62 percent of the females being United States born. Also, while 18 percent of the military females were born in Asia, this was true for only 9 percent of the males.

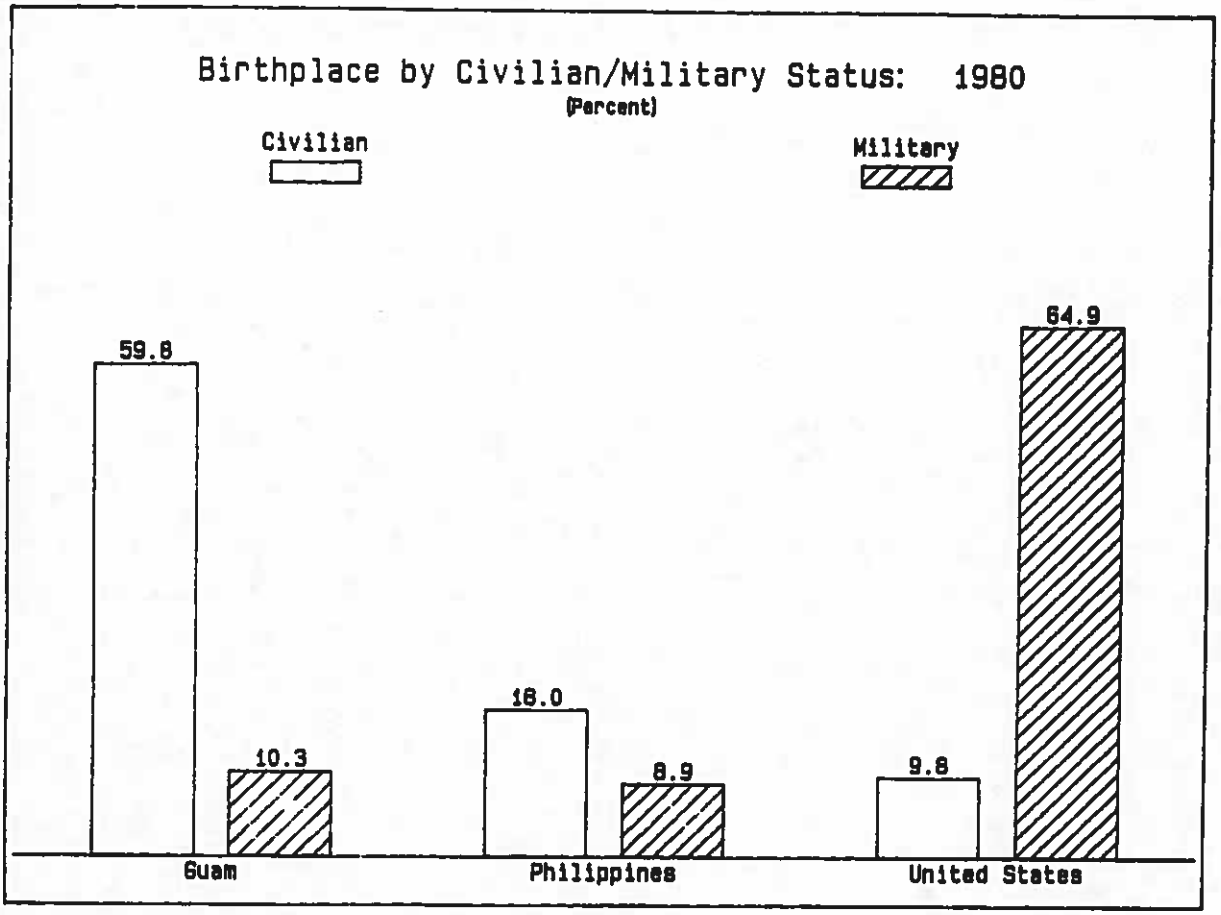
Many military personnel did not report a place of birth. The percentage was higher for males (13 percent) than for females (3 percent). These high proportions affected the proportions of the population distributed to each birthplace.

Table 7.3. Birthplace by Military Status and Sex: 1980

	Total			Civilian			Military		
Birthplace	Total	Males	Fmles	Total	Males	Fmles	Total	Males	Fmles
Total	105979	55321	50658	83226	42056	41170	22753	13265	9488
Percent	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Guam	49.2	46.3	52.3	59.8	58.2	61.4	10.3	8.5	12.9
Northern Marianas	2.0	1.8	2.2	2.5	2.3	2.6	.3	.2	.5
Asia	21.4	20.8	22.0	23.8	24.6	23.0	12.4	8.6	17.7
Philippines	16.0	16.2	15.8	18.0	19.2	16.7	8.9	6.8	11.8
United States	21.7	24.3	18.8	9.8	10.9	8.7	64.9	66.8	62.2
Palau	.9	.7	1.0	1.0	.9	1.2	.3	.2	.4
Marshall Islands	.0	.0	.0	.0	.0	.0	.0	.0	.0
FSMicronesia	.4	.4	.4	.5	.5	.5	.1	.1	.1
Elsewhere	1.4	1.3	1.5	.9	.8	1.0	3.2	2.7	3.8
Not Reported	3.1	4.4	1.6	1.6	1.7	1.4	8.6	13.0	2.5

Source: U.S. Bureau of the Census PC80-1-C/D54 1980, Table 24

Figure 7.2 Birthplace by Civilian/Military Status: 1980



When only the migrant population is considered, as noted earlier, the most frequent place of birth reported shifts from Guam to the U.S. (43 percent) and Asia (42 percent) (Table 7.4). Civilian migrants of both sexes came from Asia (60 percent of females and 59 percent of males), the U.S. (23 percent of females and 26 percent of males), and the Northern Marianas Islands (7 percent of females and 6 percent of males). Higher percentages of the military were born in the U.S. (73 percent for males and 71 percent for females) than any other place of birth reported, with Asia second (9 percent of the males and 20 percent of the females).

The military again had a large proportion of 'not reported' birthplaces, but the increase in the proportions for the migrant military population was only slightly over 1 percentage point more than for that of the total military population. However, the proportion of 'not reported' in the overall migrant population was nearly double that of the total population.

Table 7.4. Birthplace by Military Status and Sex for the Non-Guam Born: 1980

Birthplace	Total			Civilian			Military		
	Total	Males	Fmles	Total	Males	Fmles	Total	Males	Fmles
Total.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Northern Marianas.	3.9	3.4	4.7	6.1	5.5	6.8	.3	.2	.5
Asia.....	42.0	38.7	46.2	59.3	58.9	59.7	13.8	9.4	20.3
Philippines.....	31.6	30.2	33.2	44.8	46.0	43.4	9.9	7.4	13.5
United States.....	42.6	45.2	39.4	24.5	26.1	22.7	72.3	72.9	71.4
Palau.....	1.7	1.3	2.2	2.6	2.1	3.1	.3	.2	.4
Marshall Islands..	.1	.1	.1	.1	.1	.1	.0	.0	.0
FSMicronesia.....	.8	.8	.8	1.2	1.3	1.2	.1	.1	.1
Elsewhere.....	2.7	2.3	3.2	2.3	1.9	2.6	3.5	2.9	4.4
Not Reported.....	6.1	8.2	3.4	3.9	4.1	3.7	9.6	14.2	2.9

Source: U.S. Bureau of the Census PC80-1-C/D54 1980, Table 24

Age. Most of the Guam-born were young; over 60 percent were below the age of 19, compared to 45 percent of the total population, but only 22 percent of those born in the Philippines (Table 7.5 and Figure 7.3). Nearly 56 percent of those born in the U.S. were between 20 and 44 years of age; those 20 to 24 years were the largest single age group of U.S. born. As was seen in Table 7.3, 65 percent of the military on Guam in 1980 were U.S. born with the most common ages for entry into military service being 18 to 24.

The largest percentages of Philippine-born immigrants were between 35 to 44 years (17 percent) and 45 to 54 (16 percent), followed by 30 to 34 (12 percent) and 25 to 29 (11 percent). These persons almost certainly migrated for work. The Philippines born had greater proportions of elderly than those born in any other place. These elderly may have migrated in the late 1960's, after immigration laws were changed, with these people being in their mid-40's, or they may be older relatives of previous migrants who brought the more elderly migrants over to live here.

Table 7.5. Birthplace by Age: 1980

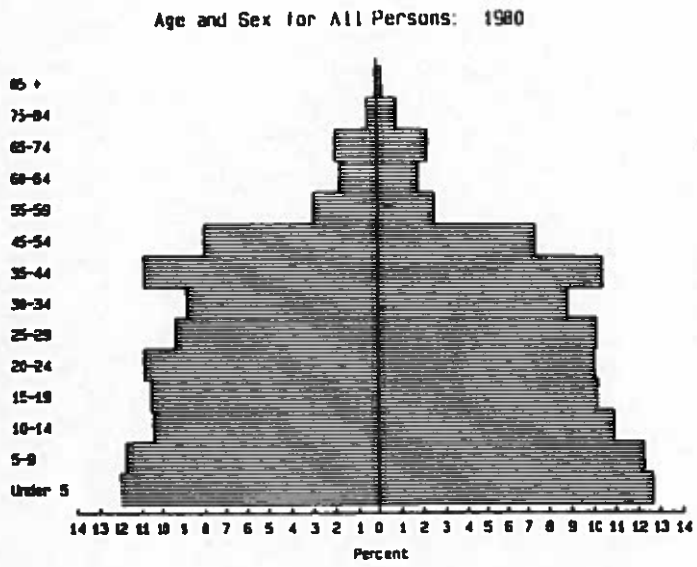
Age Group	Total	Guam	CNMI	Philippines	United States	Palau	FSM	All Others
All persons...	105979	52113	2124	16998	22950	921	475	10398
Percent.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Less than 5 years.	12.3	18.4	8.5	2.2	9.9	3.3	4.0	5.4
5 to 9 years.....	11.9	15.9	10.0	4.5	10.2	2.9	5.1	9.4
10 to 14 years....	10.7	13.9	12.2	6.8	7.4	6.4	6.7	8.4
15 to 19 years....	10.4	12.1	13.2	8.1	8.5	10.1	10.7	9.2
20 to 24 years....	10.5	7.2	10.8	7.2	17.9	14.3	25.1	14.8
25 to 29 years....	9.7	6.6	10.6	11.2	14.2	15.7	16.0	12.4
30 to 34 years....	8.8	5.4	9.5	12.2	11.9	10.7	9.7	12.5
35 to 44 years....	10.7	7.2	11.1	16.5	11.6	16.6	11.8	15.7
45 to 54 years....	7.7	6.2	8.5	15.7	4.8	13.5	4.6	8.0
55 to 59 years....	2.7	2.2	1.6	6.7	1.6	2.6	1.5	1.9
60 to 64 years....	1.8	1.7	1.8	3.8	1.0	1.8	2.5	1.0
65 years and over.	2.8	3.3	2.2	5.0	.9	2.0	2.3	1.3

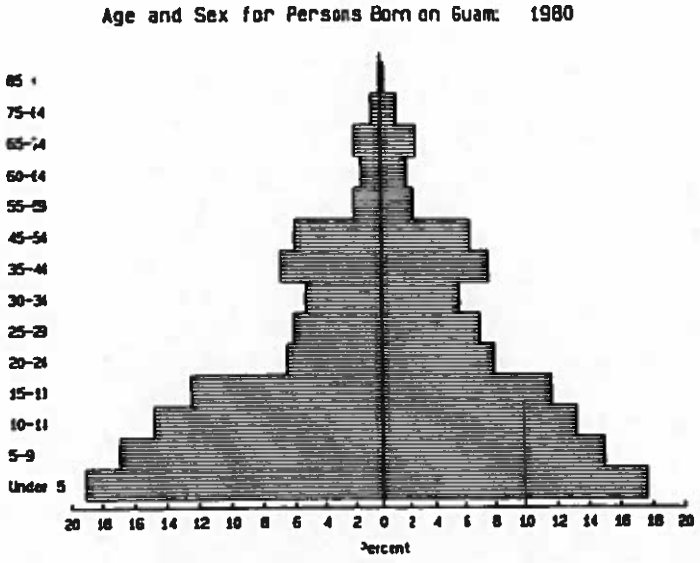
Source: U.S. Bureau of the Census PC80-1-C/D54 1980, Table 20

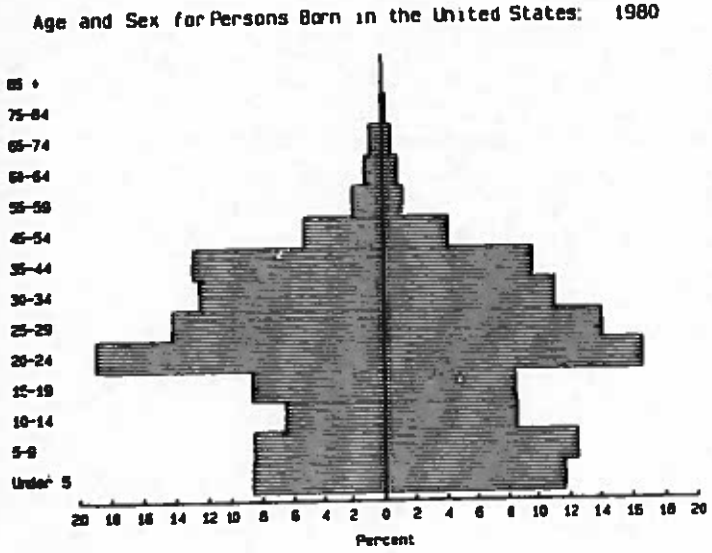
While the Guam-born made up just over 49 percent of the total population in 1980, they were 74 percent of those less than 5 years of age, and 66 percent of those 5 to 9 years (Table 7.6). In fact, they were the majority of all ages up to 19 years, and from age 25 to 54, stressing the youthfulness of the Guam-born population. In the age group 20 to 24 years, the prime military years, the U.S. born were in the majority; for those 55 to 59 years, those born in the Philippines accounted for about the same proportion as the Guam-born.

The elderly (60 years and over) were heavily Guam-born, followed by the Philippines born. Those born in the CNMI, Palau, and the Federated States of Micronesia (FSM) were concentrated in the college and working ages (15 to 54 years); those born in "All Others" places of birth had 20 percent of their population less than 15 years of age.

Figure 7.3 Birthplace by Age and Sex: 1980







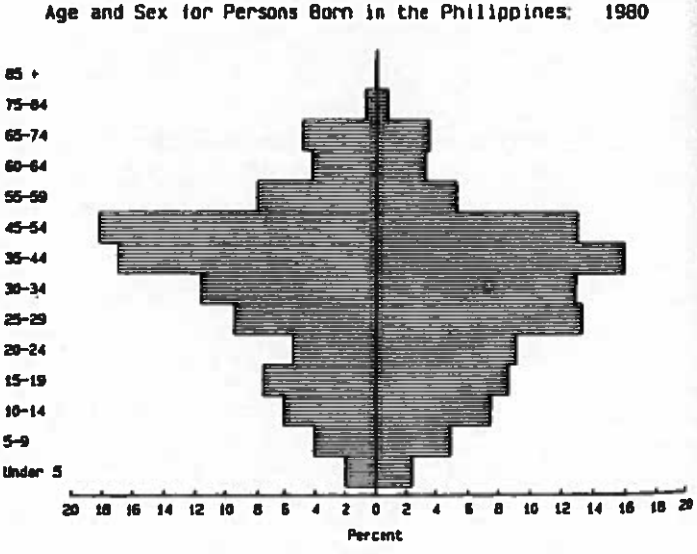


Table 7.6. Percent Birthplace by Age: 1980

Age Group	Total	Guam	CNMI	Phili-ppines	United States	Palau	FSM	All Others
All persons...	100.0	49.2	2.0	16.0	21.7	.9	.4	9.8
Less than 5 years.	100.0	73.6	1.4	2.9	17.5	.2	.1	4.3
5 to 9 years.....	100.0	65.6	1.7	6.0	18.5	.2	.2	7.7
10 to 14 years....	100.0	64.1	2.3	10.2	15.0	.5	.3	7.7
15 to 19 years....	100.0	57.1	2.5	12.5	17.8	.8	.5	8.7
20 to 24 years....	100.0	33.7	2.1	11.1	37.1	1.2	1.1	13.8
25 to 29 years....	100.0	33.2	2.2	18.5	31.5	1.4	.7	12.5
30 to 34 years....	100.0	30.5	2.2	22.3	29.5	1.1	.5	14.0
35 to 44 years....	100.0	33.3	2.1	24.8	23.5	1.4	.5	14.4
45 to 54 years....	100.0	39.7	2.2	32.7	13.4	1.5	.3	10.2
55 to 59 years....	100.0	39.0	1.2	39.3	12.7	.8	.2	6.7
60 to 64 years....	100.0	44.9	2.0	33.8	12.3	.9	.6	5.4
65 years and over.	100.0	57.2	1.6	28.7	7.0	.6	.4	4.6

Source: U.S. Bureau of the Census PC80-1-C/D54 1980, Table 20

YEAR OF IMMIGRATION

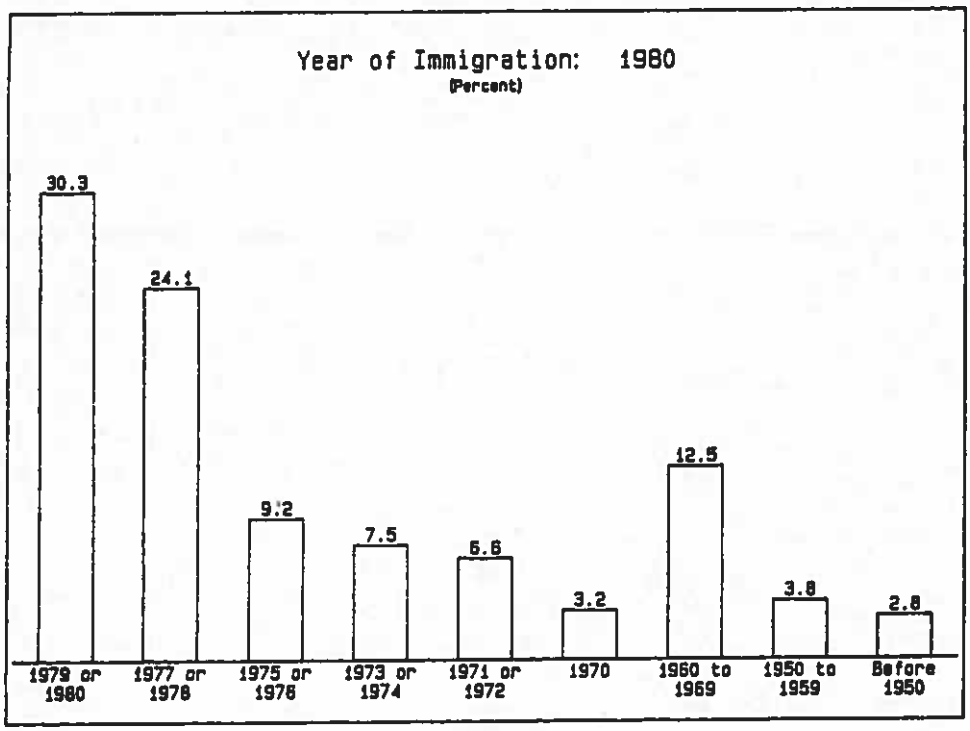
Just over 54 percent of all immigrants came to Guam after 1977, with more coming in 1979 or 1980 than in any other period, and the 1977-78 period being second (Table 7.7 and Figure 7.4). The 1960 to 1969 decade was the third most frequent period of immigration. Those born in the CNMI came most often in 1979 or 1980 (29 percent), followed by 1960 to 1969; the Philippines born were more likely to have immigrated in the earlier period than the latter. Nearly 74 percent of the U.S. born had come to Guam between 1977 and 1980; reflecting the fact that many U.S. born were military and subject to short-term stays. Those from Palau and the FSM had patterns of immigration similar to those from the Philippines: the period when the majority migrated was the decade 1960-69, followed by 1979 or 1980.

Table 7.7. Year of Immigration by Birthplace: 1980

Age Group	Total	CNMI	Asia Total	Asia Phili-ppines	United States	Palau	FSM	All Others
Born elsewhere..	50595	2124	22648	16998	22950	921	436	1516
Percent.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1979 or 1980.....	30.3	29.3	18.1	16.8	42.6	14.9	28.9	36.2
1977 or 1978.....	24.1	14.3	18.2	16.4	31.0	12.4	21.8	29.4
1975 or 1976.....	9.2	6.9	12.1	9.6	6.7	7.5	13.1	7.3
1973 or 1974.....	7.5	5.1	11.0	9.8	4.3	7.5	7.6	6.9
1971 or 1972.....	6.6	4.8	9.8	9.3	3.9	6.2	5.5	4.4
1970.....	3.2	2.5	4.5	5.1	2.0	4.6	2.5	3.1
1960 to 1969.....	12.5	20.8	17.7	22.0	6.4	27.9	7.6	8.6
1950 to 1959.....	3.8	7.7	4.8	6.0	2.1	13.4	4.1	2.6
Before 1950.....	2.8	8.6	3.9	5.0	1.0	5.8	8.9	1.6

Source: U.S. Bureau of the Census PC80-1-C/D54 1980, Table 27

Figure 7.4 Year of Immigration: 1980
(Percent)



As can be seen in Table 7.8, in any of the broad year spans, the majority of immigrants were born in the Philippines, except for the years 1975 to 1980, when over 57 percent of immigrants were from the U.S. This large proportion undoubtedly is related to movements of military personnel who move on to and off of the island at fairly frequent intervals - while the relative number of military on island may fluctuate somewhat over time, the absolute numbers of military and their dependents is much larger and influences period of "migration" to Guam.

The proportion of the population who migrated from the Northern Marianas was greatest in the period before 1950 (13 percent of the population which migrated during that period) which was probably partly due to family unification, particularly after World War II. Migration from CNMI decreased considerably as a proportion of the total immigrant population by period, but began to increase slightly in the last period before the 1980 census. Migration from the other areas of Micronesia was limited, but the implementation of the Compacts of Free Association may have an impact on the amount of migration from these areas.

Table 7.8. Period of Immigration by Birthplace: 1980

Age Group	Total	CNMI	Asia					
			Total	Phili-ppines	United States	Palau	FSM	All Others
Born elsewhere..	100.0	4.2	44.8	33.6	45.4	1.8	.9	3.0
1975 to 1980.....	100.0	3.3	34.1	22.6	57.3	1.0	.9	3.4
1970 to 1974.....	100.0	3.0	65.1	46.8	26.7	1.9	.8	2.5
1960 to 1969.....	100.0	7.0	63.2	59.1	23.2	4.1	.5	2.0
1950 to 1959.....	100.0	8.6	56.6	53.9	25.3	6.4	.9	2.1
Before 1950.....	100.0	13.0	62.4	60.5	16.3	3.8	2.8	1.7

Source: U.S. Bureau of the Census PC80-1-C/D54 1980, Table 27

Table 7.9 shows the total immigrant population (non-Guam born) and the Guam born by age group and year of immigration for the non-Guam born. The Guam born were just over half of the total population and dominated the age groups less than 19 years and 65 years and over, which comprised most of the non-working ages. Migrants made up anywhere from 68 percent (those 30 to 34 years) to 54 percent (60 to 64 years) of the working age population.

The period 1975 to 1980 was the most active period of immigration for all age groups of migrants; the second most active period was 1970 to 1974. Those who were 25 years and over in 1980 migrated to Guam during their working ages, with very few coming at the time they were less than 10 years old. Those who were 25 to 29 in 1980 came most often in 1975 to 1980, when they were 20 to 24 years old (78 percent), followed by 1970 to 1974, when they were 15 to 19 years old (14 percent). Those 65 and older in 1980 had the most evenly distributed periods of immigration: 33 percent had come between 1975 to 1980, 21 percent before 1950, and 20 percent came between 1970 to 1974.

Table 7.9. Year of Immigration by Age: 1980

Age Group	Total	Guam Born	Year of Immigration for non-Guam born					
			Total	1975-1980	1970-1974	1960-1969	1950-1959	Before 1950
All persons...	102,708	50.7	100.0	63.6	17.4	12.5	3.8	2.8
Less than 5 years.	12,797	74.7	100.0	97.8	1.9	0.0	0.0	0.0
5 to 9 years.....	12,453	66.6	100.0	84.2	15.4	0.0	0.0	0.0
10 to 14 years....	11,168	65.1	100.0	63.0	25.5	11.5	0.0	0.0
15 to 19 years....	10,605	59.2	100.0	59.1	21.1	19.7	0.0	0.0
20 to 24 years....	10,194	36.7	100.0	81.2	10.0	7.2	1.5	0.0
25 to 29 years....	9,910	34.5	100.0	77.8	13.8	6.5	2.0	0.0
30 to 34 years....	8,941	31.6	100.0	66.2	19.9	11.7	1.7	0.6
35 to 44 years....	10,919	34.5	100.0	49.6	23.0	22.5	3.3	1.7
45 to 54 years....	8,025	40.5	100.0	30.1	21.0	24.1	14.8	9.9
55 to 59 years....	2,866	39.7	100.0	25.7	19.7	18.5	16.6	19.4
60 to 64 years....	1,899	45.6	100.0	30.7	18.2	16.4	16.9	17.8
65 years and over.	2,931	58.2	100.0	32.5	20.1	12.9	13.6	20.8

Source: U.S. Bureau of the Census PC80-1-C/D54 1980, Table 22
Note: Excludes Persons not Reporting Place of Birth

Nearly 73 percent of the non-Guam born 16 years and older were in the labor force, compared to only 55 percent of the Guam born (Table 7.10 and Figure 7.5). Most of the Guam born labor force was civilian (98 percent) and employed (95 percent), while 71 percent of the migrant labor force were civilian and 96 percent were employed.

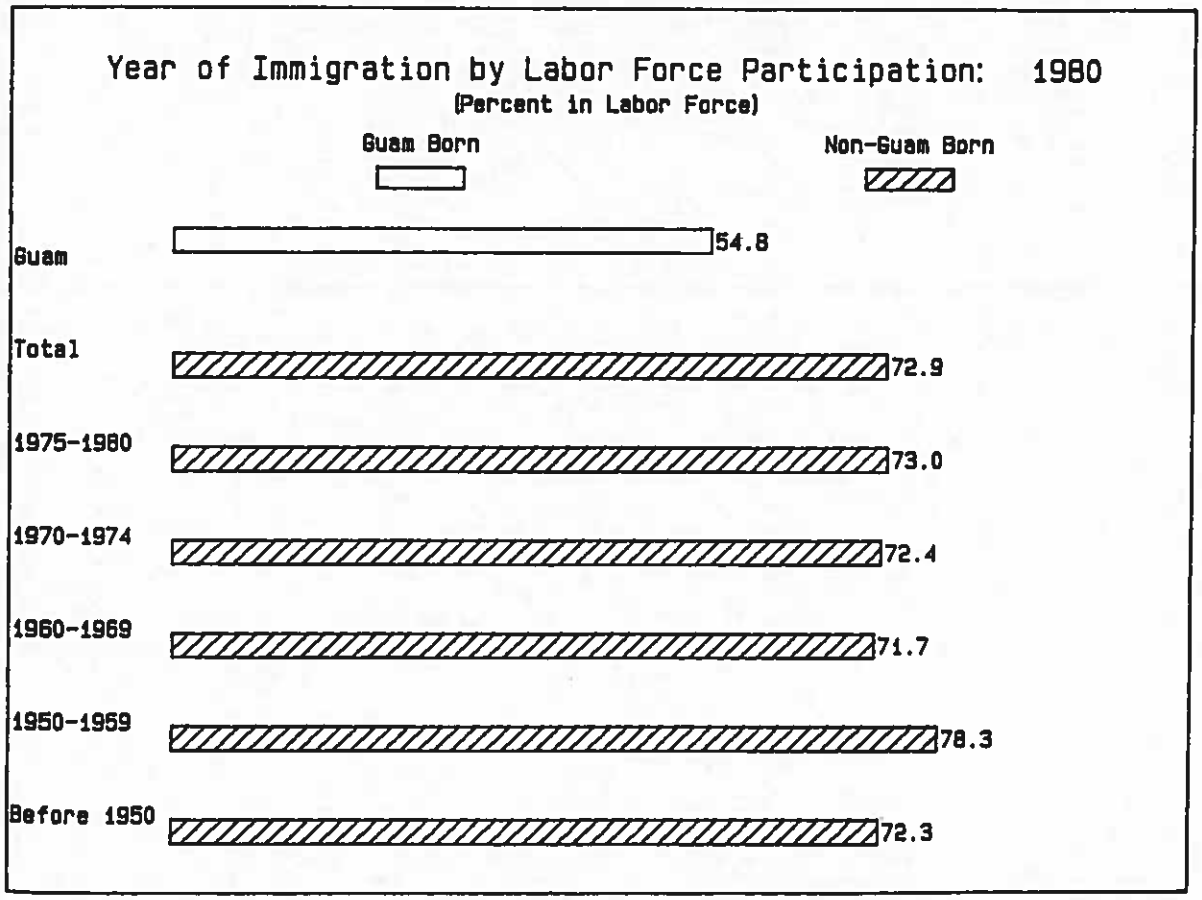
Fully 73 percent of those migrating to Guam between 1975 and 1980 were in the labor force; over 47 percent were in the Armed Forces. Labor force participation rates for migrants from all periods were 72 percent or higher, with the highest rates among those who had migrated to Guam between 1950 to 1959.

Table 7.10. Year of Immigration by Labor Force Participation: 1980

Labor Force	Total	Guam Born	Year of Immigration for non-Guam born					
			Total	1975-1980	1970-1974	1960-1969	1950-1959	Before 1950
Persons.....	66773	25577	38508	22619	6885	5692	1907	1405
Labor Force.....	44484	14019	28076	16501	4984	4081	1494	1016
Percent.....	66.6	54.8	72.9	73.0	72.4	71.7	78.3	72.3
Armed Forces....	10125	264	8165	7765	220	118	43	19
Percent.....	22.8	1.9	29.1	47.1	4.4	2.9	2.9	1.9
Civilian L.F....	34359	13755	19911	8736	4764	3963	1451	997
Employed.....	32692	13001	19027	8181	4606	3840	1422	978
Unemployed....	1667	754	884	555	158	123	29	19
Percent.....	4.9	5.5	4.4	6.4	3.3	3.1	2.0	1.9
Not in Labor Force	22289	11558	10432	6118	1901	1611	413	389

Note: Excludes Persons Not Reporting Place of Birth
Source: U.S. Bureau of the Census PC80-1-C/D54 1980, Table 39

Figure 7.5 Year of Immigration by Labor Force Participation: 1980
(Percent in Labor Force)



PLACE OF BIRTH OF PARENTS

Unlike the 1980 census in the United States, the 1980 census on Guam collected information about father's and mother's birthplace. These data help assess generational migration; that is, parental birthplace information allows analysis of movement over one generation - how many people had a father or mother born elsewhere and who were themselves born on Guam, compared to those who were themselves migrants, or native or native parents.

Once again, in 1980, 49 percent of Guam's population was born on Guam (Table 7.11). Although 52,113 persons had been born on Guam, only 40,799 persons in 1980 had fathers who had been born on Guam, and, of these, 38,686 (95 percent) were born on Guam themselves. The other 5 percent were persons whose fathers were born on Guam but they were born elsewhere.

More than 4 in 10 persons whose fathers were born in the CNMI were born on Guam. About 94 percent of the rest of that population (1615 persons) were born in the CNMI, while the rest (102 persons) were born elsewhere. Of the largest groups, persons whose fathers had been born in the United States but who were themselves born on Guam constituted the smallest proportion - only 13 percent. Of the 21,270 persons who were not born on Guam and with fathers who were born in the United States, 19,604 (92 percent) were born in the United States as well.

About 1 in every 4 persons with Asia-born fathers were born on Guam; of those not born on Guam themselves, 95 percent were born in Asia. Although a higher proportion of Philippines born fathers had respondents born on Guam (30 percent), and the same proportion (94 percent) of the non-Guam born were born in the Philippines.

Many Palauans have been on island long enough to see the second generational effect. More than 38 percent of persons with fathers born on Palau were born on Guam (although it is likely that most of these persons are young children); of those with fathers born on Guam but who were not born on Guam themselves, 91 percent were born on Palau. The results for the Federated States of Micronesia showed a smaller proportion born on Guam, and less correspondence with parental birthplace.

Table 7.11. Father's Birthplace by Own Birthplace: 1980

Father's Birthplace	Total	Guam	Not Born on Guam		
			Total	Same as Father's Birth-Place	Not Same Father's Birth-place
Total	105979	49.2	100.0	(NA)	(NA)
Guam	40799	94.8	100.0	0.0	100.0
Northern Mariana Islands	2949	41.8	100.0	94.1	5.9
Asia	30246	26.6	100.0	94.7	5.3
Japan and Okinawa	1669	15.8	100.0	83.6	16.4
Philippines	24781	30.2	100.0	93.3	6.7
United States	24333	12.6	100.0	92.2	7.8
Palau	1411	38.1	100.0	90.7	9.3
Marshall Islands	63	28.6	100.0	53.3	46.7
Federated States of Micronesia	518	27.4	100.0	76.9	23.1
Kosrae	86	22.1	100.0	85.1	14.9
Pohnpei	95	13.7	100.0	74.4	25.6
Truk	131	10.7	100.0	89.7	10.3
Yap	206	46.6	100.0	60.0	40.0
Elsewhere	2121	14.6	100.0	(NA)	(NA)
Place of Birth Not Reported	3539	2.0	100.0	(NA)	(NA)

Source: U.S. Bureau of the Census PC80-1-C/D54 1980, Table 25

While 40,799 persons in 1980 had fathers who had been born on Guam, 44,708 had mothers born on Guam (Table 7.12). About the same proportion as for fathers - 95 percent - had mothers born on Guam and were born on Guam themselves. The other 5 percent were persons whose mothers were born on Guam but they were born elsewhere.

As with the fathers, more than 4 in 10 persons whose mothers were born in the CNMI were born on Guam. About 92 percent of the rest of that population were born in the CNMI, while the rest were born elsewhere. The percentage of persons whose mothers had been born in the United States but who were themselves born on Guam constituted a smaller proportion for mothers than fathers - only 8 percent. Of the persons who were not born on Guam and with mothers who were born in the United States, only 84 percent were born in the United States as well (compared to 92 percent of the fathers).

Only about 18 percent of those persons with Asia-born mothers were born on Guam, probably showing the relatively earlier immigration of Asian males who subsequently married and had children (who, themselves, showed up in the 1980 census); of those not born on Guam themselves, 94 percent were born in Asia. Although a higher proportion of Philippines born mothers had respondents born on Guam (20 percent) compared to 30 percent for the males, and 95 percent of the non-Guam born were born in the Philippines.

Table 7.12. Mother's Birthplace by Own Birthplace: 1980

Mother's Birthplace	Total	Guam	Not Born in the Guam		
			Total	Same as Mother's Birth-Place	Not Same Mother's Birth-place
Total	105979	49.2	100.0	(NA)	(NA)
Guam	44708	95.4	100.0	0.0	100.0
Northern Mariana Islands	3190	40.7	100.0	92.5	7.5
Asia	28630	18.5	100.0	93.5	6.5
Japan and Okinawa	2217	14.1	100.0	81.3	18.7
Philippines	22000	20.5	100.0	94.9	5.1
United States	21223	8.0	100.0	84.4	15.6
Palau	1655	41.4	100.0	89.8	10.2
Marshall Islands	63	25.4	100.0	55.3	44.7
Federated States of Micronesia	574	28.2	100.0	78.4	21.6
Kosrae	84	20.2	100.0	88.1	11.9
Pohnpei	134	20.1	100.0	80.4	19.6
Truk	140	16.4	100.0	89.7	10.3
Yap	216	44.0	100.0	60.3	39.7
Elsewhere	2449	10.5	100.0	(NA)	(NA)
Place of Birth Not Reported	3487	1.4	100.0	(NA)	(NA)

Source: PC80-1-C/D54, Table 25

These data on parental birthplace show that there is a strong likelihood that persons with parents born on Guam are also born on Guam themselves. Persons with parents born in most of the other areas were also likely to have been born in those areas themselves. On the other hand, there is some evidence that migrant groups who have been immigrating for some time are settling on Guam, and having children, and that we are seeing the development of an increasing second-generation migrant population, particularly among the CNMI born and Palauans; the data are less clear for Asians because of the continuing strong migration. And migration from the other Micronesian areas is only beginning.

There were differences by sex of parent, with some evidence that there has been selective migration for males, particularly in the earlier periods; these data have been seen in other tables in this chapter as well.

RESIDENCE IN 1975

The question on residence in 1975 (5 years before the census) shows the extent of recent mobility of the population (Table 7.13 and Figure 7.6). (While the distribution of persons who were living in a different house in 1975 than 1980 shows mobility, the total number of moves during the 5-year period cannot be obtained because some persons had moved after 1975, but, by the time of enumeration, had returned to their 1975 residence).

Almost 4 out of every 10 persons 5 years and over and living on Guam in 1980 had lived in the same house in 1980. About 1 in every 4 lived on Guam, but in a different house, and about 3 in every 10 lived elsewhere. About 2 in 5 persons had lived in the United States in 1975 and Guam in 1980, and somewhat less than 1 in 10 had been in Asia (and 1 in 20 in the Philippines) in 1975.

Only 4 percent of the 42,550 persons 5 years and over who had been born on Guam had lived outside of Guam in 1975; most (3 percent) had lived in the U.S. In direct contrast to this were those who had been born in the U.S., over 75 percent of whom had lived outside of Guam in 1975, mostly in the U.S. (68 percent) or Asia (4 percent). Slightly over 68 percent of those born in Palau had lived on Guam in 1975, as had 65 percent of the Philippines born and 57 percent of the CNMI born.

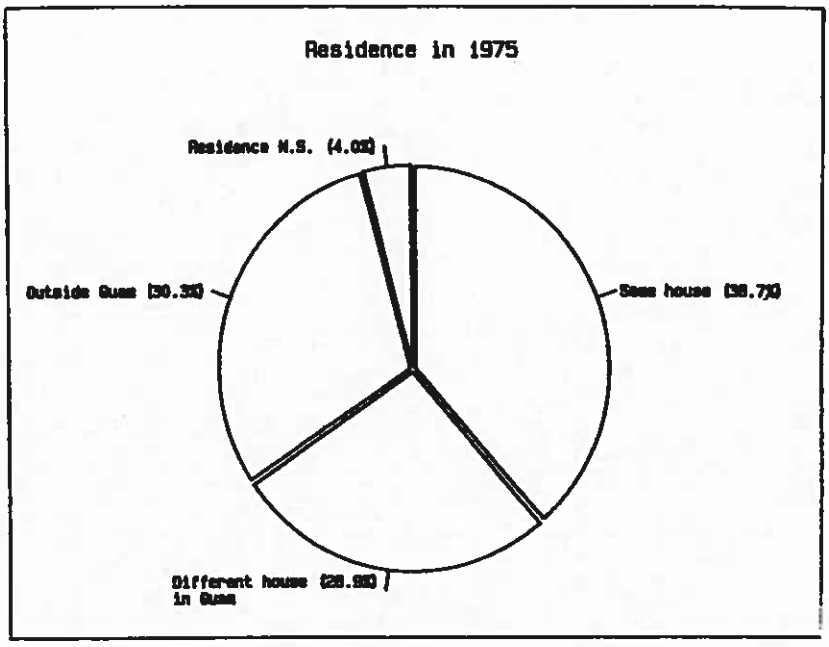
It is important to note that 4 percent of the respondents 5 years and over gave no residence in 1975. Although these responses, like those of the migration variables - own birthplace and parental birthplace - were allocated for the U.S. questionnaires, they were not allocated for the Guam census since there were so few persons who did not report (3,747 for this item). All of the figures discussed here are affected by the persons not reporting since (1) the category is treated as if it were a separate birthplace, and (2) there is an assumption that these unallocated values had the same distribution as the known values.

Table 7.13. Birthplace by Residence in 1975: 1980

Residence in 1975	Total		Guam	United Sttes	Asia				All Others
	Numbr	Percnt			Total	Phil-ppnes	Pa-lau	CNMI	
Persons 5 yrs & over.	92977	...	42550	20677	22019	16626	891	1944	4896
Percent.....	...	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Same house.....	35997	38.7	59.7	11.0	30.9	35.2	31.8	28.6	13.5
Different house in Guam	25050	26.9	34.6	13.0	29.0	29.6	36.4	28.3	7.4
Same Election dist...	13109	14.1	18.8	6.6	14.6	14.7	12.8	12.1	3.9
Different Elect dist.	11941	12.8	15.8	6.5	14.4	14.9	23.6	16.2	3.4
Outside Guam.....	28183	30.3	3.9	75.2	39.4	34.6	28.4	42.5	24.6
Asia.....	7742	8.3	.2	3.8	30.7	27.0	.1	.3	1.6
Japan and Okinawa..	1006	1.1	.1	1.5	2.9	.5	.1	.2	.4
Korea.....	848	.9	.0	.2	3.6	.0	0.0	.1	.1
Philippines.....	4706	5.1	.1	1.0	20.1	26.3	0.0	.1	.5
United States.....	17742	19.1	3.2	67.7	7.5	6.5	3.5	2.7	12.9
Northern Marianas....	959	1.0	.2	.2	.2	.3	3.6	39.1	.2
Trust Territory.....	482	.5	.1	.2	.1	.0	21.1	.3	4.2
Palau.....	255	.3	.0	.1	.0	.0	20.0	.2	.8
Marshall Is.....	21	.0	.0	.0	.0	.0	0.0	0.0	.2
FSM.....	206	.2	.0	.1	.0	.0	1.1	.1	3.2
Elsewhere.....	1258	1.4	.2	3.3	.9	.8	.1	.2	5.7
Residence Not Reported.	3747	4.0	1.7	.8	.7	.7	3.5	.6	54.6

Source: U.S. Bureau of the Census PC80-1-C/D54, Table 26

Figure 7.6 Residence in 1975: 1980
(Percent)



When the military population is removed (Table 7.14), the distribution of birthplace by residence in 1975 is affected. In this case, almost 48 percent (almost half) of the population 5 years and over (rather than the previous 39 percent) lived in the same house in 1975 and 1980; similarly, 33 percent lived in a different house on Guam (compared to 27 percent for the whole population). On the other hand, only 17 percent of the civilian persons 5 years and over lived outside Guam in 1975, compared to 30 percent for the whole population. The biggest change by area outside Guam was for the United States, which decreased from 19 percent for all persons to only 6 percent when only the civilian population was considered.

The proportion of U.S. born civilians 5 years and over who lived on Guam in 1975 was 56 percent, over twice the percentage of all U.S. born who resided here in 1975. The U.S. born civilians who lived in the U.S. in 1975 were almost half of all U.S. born civilians who did so. The data for 'All Others' was similar to the U.S. born data, which is not surprising, as 53 percent of 'All Other' born were military. These data emphasize the mobility of the military population.

Table 7.14. Birthplace by Residence in 1975: 1980 Civilians

Residence in 1975	Total	Guam	United States	Asia				All Others
				Total	Philippines	CNMI	Palau	
Persons 5 yrs. & over.	73451	41252	7733	19423	14734	1685	836	2322
Percent.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Same house.....	47.8	60.5	27.0	34.4	38.9	29.4	33.1	25.6
Different house/Guam...	32.6	34.6	29.5	32.0	32.5	28.4	37.2	14.6
Same Election dist...	16.9	18.8	13.5	16.1	16.2	12.3	13.4	7.5
Different Elect. dis.	15.7	15.8	16.0	15.9	16.3	16.2	23.8	7.1
Outside Guam.....	17.2	3.3	42.7	33.0	27.9	41.6	26.6	24.4
Asia.....	8.3	.2	3.3	29.5	25.5	.2	.1	2.4
Japan.....	.9	.1	1.3	2.6	.1	.1	.1	.5
Korea.....	1.1	.0	.2	3.9	.0	0.0	0.0	.1
Philippines.....	5.3	.1	.9	19.4	25.3	.1	0.0	.8
United States.....	6.4	2.7	36.6	2.5	1.5	1.9	2.6	7.6
CNMI.....	1.3	.2	.3	.2	.3	39.2	3.6	.5
TTPI.....	.6	.1	.5	.1	.1	.3	20.1	8.0
Palau.....	.3	.0	.2	.0	.0	.2	19.0	.4
Other Pacific Is.....	.1	0.0	.2	.0	.0	.1	0.0	.9
Elsewhere.....	.6	.2	1.9	.6	.5	.1	.1	5.0
Residence Not Reported.	2.3	1.6	.8	.6	.6	.5	3.1	35.5

Source: U.S. Bureau of the Census PC80-1-C/D54 1980, Table 26

RESIDENCE IN THE UNITED STATES BETWEEN 1970 AND 1980

One series of questions which appeared on the 1980 Census questionnaire for Guam but which did not appear on the questionnaire for the United States concerned residence in the United States (including Hawaii) in the 10 years preceding the 1980 census. This question had four parts:

a. During the last 10 years did...live in the United States (including Hawaii) at any time for 6 or more consecutive months?
b. When did...come or return to this territory the last time?
c. How long did...live in the United States the last time?
d. For the last 6 months that...lived in the United States was...-
   1. Working at a job or business (Full time or part time)?
   2. In the U.S. Armed Forces?
   3. Attending school or college?

These questions were intended to elicit information about the "circulatory" migration patterns of Guam's population. Many Pacific Islanders move back and forth between their home islands and larger nation-states, primarily New Zealand and the United States. Planning and policy considerations require differing counts of the expected populations in Guam, so the amount of migration and the characteristics of the migrants are very important to the Territorial and Federal governments.

For the 1980 census of Guam, over 28,000 persons were recorded as having lived away from Guam between 1970 and 1980, returning most often in 1979 or 1980 (40 percent) or 1977 or 1978 (32 percent) (Table 7.15). There were no differences between year of return by sex. Those born on Guam returned most often between 1972 to 1974 or 1977 or 1978 (both 24 percent), while those born elsewhere returned during 1979 or 1980 (45 percent) or 1977 or 1978 (35 percent).

Table 7.15. Year of Return for Persons Living Away Between 1970 and 1980: 1980

Year of Arrival or Return	Total			Born in Guam			Born Elsewhere		
	Total	Males	Fmles	Total	Males	Fmles	Total	Males	Fmles
Total.....	28138	15489	12649	5795	2997	2798	22343	12492	9851
Percent....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1979 or 1980....	40.1	41.0	39.0	22.6	21.3	24.1	44.6	45.7	43.2
1977 or 1978....	32.4	31.0	34.0	23.6	21.2	26.2	34.6	33.3	36.2
1975 or 1976....	10.3	10.0	10.7	17.1	17.6	16.6	8.6	8.2	9.0
1972 to 1974....	10.6	10.2	11.1	23.9	25.5	22.2	7.2	6.6	7.9
1970 or 1971....	4.5	4.7	4.1	10.8	12.5	9.1	2.8	2.9	2.7
Yr not reported.	2.1	3.0	1.1	1.9	2.0	1.8	2.2	3.2	.9

Source: U.S. Bureau of the Census Summary Tape File 3A 1980, Table 152

Table 7.16 presents data on persons 5 years and over who lived in the U.S. for 6 or more consecutive months. The largest age group who lived in the U.S. were those 25 to 34 years old with 9,003 persons (32 percent). Of that total, 53 percent lived there 6 or more years, 26 percent for 6 months to 2 years, and 21 percent for 3 to 5 years. The second largest group were persons 15 to 24 years old with 7,712 persons (27 percent). Most of those living away did so for 6 or more years, with the exception of those less than 15 years old: their distribution was almost evenly split among the three time periods.

Table 7.16. Persons 5 Years and Over Who Lived in the United States for 6 or more Consecutive Months Between 1970 and 1980 by Sex and Length of Last Stay in the U.S. by Age: 1980

Length of Stay in the U.S.	Total	Under 15 Years Old	15 to 24 Years Old	25 to 34 Years Old	35 to 44 Years Old	45 Years Old and Over
Total.....	28167	5534	7712	9003	3638	2280
Percent.....	100.0	100.0	100.0	100.0	100.0	100.0
6 months to 2 yrs.	26.6	31.9	23.2	25.5	21.9	38.3
3 to 5 years.....	20.1	33.8	10.4	21.4	22.5	14.5
6 or more years...	53.3	34.3	66.3	53.2	55.7	47.2

Source: U.S. Bureau of the Census Summary Tape File 3A 1980, Table 158

Of the 28,167 persons who lived in the U.S. for 6 or more consecutive months between 1970 and 1980, 15,517 (55 percent) were males (Table 7.17). Most were in the school and working ages of 15 to 34 years (60 percent). Except for the youngest group, most (55 percent) had lived away for 6 or more years.

Table 7.17. Males 5 Years and Over Who Lived in the United States for 6 or more Consecutive Months Between 1970 and 1980 by Sex and Length of Last Stay in the U.S. by Age: 1980

Length of Stay in the U.S.	Total	Under 15 Years Old	15 to 24 Years Old	25 to 34 Years Old	35 to 44 Years Old	45 Years Old and Over
Males.....	15517	2793	4410	4973	2107	1234
Percent.....	100.0	100.0	100.0	100.0	100.0	100.0
6 months to 2 yrs.	25.3	32.2	20.5	25.6	21.9	33.9
3 to 5 years.....	20.0	33.5	9.4	22.3	23.0	15.3
6 or more years...	54.7	34.3	70.2	52.1	55.0	50.8

Source: U.S. Bureau of the Census Summary Tape File 3A 1980, Table 158

The characteristics of females who lived away for 6 or more months were similar to those of the males who did the same (Table 7.18). Fully 58 percent were between 15 to 34 years; 52 percent had lived away 6 or more years.

Table 7.18. Females 5 Years and Over Who Lived in the United States for 6 or more Consecutive Months Between 1970 and 1980 by Sex and Length of Last Stay in the U.S. by Age: 1980

Length of Stay in the U.S.	Total	Under 15 Years Old	15 to 24 Years Old	25 to 34 Years Old	35 to 44 Years Old	45 Years Old and Over
Females.....	12650	2741	3302	4030	1531	1046
Percent.....	100.0	100.0	100.0	100.0	100.0	100.0
6 months to 2 yrs.	28.1	31.6	26.9	25.4	21.8	43.3
3 to 5 years.....	20.3	34.2	11.8	20.2	21.7	13.6
6 or more years...	51.6	34.2	61.3	54.4	56.5	43.2

Source: U.S. Bureau of the Census Summary Tape File 3A 1980, Table 158

Table 7.19 shows the activity of persons who lived in the U.S. for those 5 years old and over, and persons 16 years old and over. Of the 24,835 persons 5 years and over who reported their activity, 11,804 (48 percent) were females and 13,031 were males. Of those reporting an activity, 36 percent attended school or college (37 percent of males and 34 percent of females). Of the 22,199 total persons 16 years old and over, 12,512 (56 percent) were males and 9,687 were females. Slightly over 40 percent of males that reported an activity were working at a job or business and 68 percent were in the Armed Forces. For the females who

reported an activity, 39 percent were in school and nearly 10 percent were in the Armed Forces.

Table 7.19. Activity for Last 6 Months of Residence for Persons Who Lived in the U.S. between 1970 and 1980: 1980

Activity	Total	Males	Females
Persons 5 years and over..	28167	15517	12650
Attending school or college....	8889	4839	4050
Not attending.....	15946	8192	7754
Not reported.....	3332	2486	846
Percent of reported.....	35.8	37.1	34.3
Persons 16 years and over.	22199	12512	9687
Working at a job or business...	7822	4220	3602
Not working.....	11777	6234	5543
Not reported.....	2600	2058	542
Percent of reported.....	39.9	40.4	39.4
In the armed forces.....	8728	7868	860
Not in armed forces.....	11740	3669	8071
Not reported.....	1731	975	756
Percent of reported.....	42.6	68.2	9.6

Source: U.S. Bureau of the Census Summary Tape File 3A 1980, Tables 154 and 156

SUMMARY

Slightly over 49 percent of the total population of the island in 1980 had been born on Guam; the remainder were migrants. When the military are discounted, however, nearly 60 percent of Guam's population were born on the island. The majority of the migrants came from the United States (45 percent) or Asia (also 45 percent). The most common period of immigration was 1979 to 1980 (30 percent), followed by 1977 to 1978 (24 percent), except for immigrants from the Philippines, who came most often between 1960 to 1969.

Immigrants were most likely to be between 20 and 64 years of age (67 percent), in the labor force (73 percent), and to have been born in the same place that their father had been born (80 percent) rather than their mother's birthplace (77 percent).

Persons who had lived away from Guam between 1970 and 1980 returned most often in the period between 1979 to 1980 (40 percent) or 1977 to 1978 (32 percent). For those who were 5 years or over, most had lived away from Guam for 6 or more years (53 percent). Many who had lived away from Guam were in the Armed Forces (43 percent), or school (36 percent).

When considering the age of immigrants, (20 to 64), their labor force participation (73 percent), and their birthplace (United States or Asia), the majority were military personnel or laborers who were on Guam to work, then return home. They had a short-term, but vital, impact on the island, in the form of income earned, taxes paid, and money spent here, as well as participation in

services and programs available on island. One issue that repeatedly arises, however, is whether or not migrants fill jobs that local personnel could fill. Only 55 percent of those who were 16 years and over and born on Guam were in the labor force. This aspect of migration will be explored in more depth in Chapter 10 on labor force participation.

With the approval of the Commonwealth Act by Guam voters, including the provision to control local immigration, the migration picture is expected to change considerably. This change will probably not occur before the 1990 census.

CHAPTER 8
ETHNICITY

"...Being a Guamanian can't be a blood thing, although I guess it would help to have some Chamorro blood in you. The only problem is that the Spanish wiped out most of the male Chamorros, so it is difficult to find any pure Chamorro blood...Maybe if we can't use blood, or birth as a standard for just what does constitute a Guamanian...maybe to be a Guamanian he has to like chicken and red rice. Or has to vote in a local election. Or maybe to be a real Guamanian a guy has to know the language. That's not bad, except that some people know it better than others, and language is a hard thing to measure...

Land ownership would have been a nice criterion to use some years ago, but unfortunately many Guamanians never have owned land, and other Guamanians have sold their land - of their own free will - to Japanese, Chinese, Koreans, or statesiders...

I have my own personal recommendation. I say that if a guy is sitting around with a bunch of unhappy sailors, discussing the island, if that guy stands up and says only nice things about Guam as a place to live, as his home, then he should be allowed to pass. If he talks about the fiestas, the balmy trade winds blowing off the sea, the coconut palms floating gently in the green hills between Agat and Umatac - and pronounces Umatac correctly, then I would say that here we have a Guamanian." (Joe Murphy, Pipedreams, The Sunday News, March 24, 1974).

In Chapter 1 we traced the history of Chamorros, Filipinos, and others on Guam from Spanish times and into the 20th century. In this chapter we will be looking at the current social and economic situation of the various ethnic groups on Guam, but will be spending most of the time looking at the major groups - Chamorros, Filipinos, and others (including Whites).

The data on ethnicity were derived from the answers to question 4. The 1980 census marked the first time that a general question on ethnicity was asked in a decennial census. The question was based on self-identification and was open-ended (respondents were required to provide the answer).

Ethnicity refers to a person's nationality group, lineage, or the country in which the person or the person's parents or ancestors were born before their arrival on Guam. Thus, persons reported their ethnic group regardless of the number of generations removed from their country of origin. Furthermore, responses to the ethnicity question reflected the ethnic group(s) with which persons identified and not necessarily the degree of attachment or association the persons had with the particular group(s).

Ethnicity is different from other population characteristics that are sometimes regarded as indicators of ethnicity, namely country of birth and language spoken at home.

A large number of persons reported their ethnicity by specifying a single ethnic group, but some reported two, three, or more ethnic groups. All responses were coded manually by a procedure that allowed for identification of all single ethnic groups reported. In addition, selected two- and three-part combinations of ethnicity were identified by unique codes (these categories were selected since they were reported frequently in Census Bureau surveys taken prior to the 1980 census). All other multiple responses were coded according to the first ethnic category reported.

In published tabulations, multiple groups are designated in open-ended categories such as "Chamorro and other groups," rather than in specific multiple ethnic groups such as "Chamorro-Carolinian." A person who reported "Chamorro-Carolinian" ethnicity, for example, is included in the "Chamorro and other groups" and in the category "Carolinian and other groups." A few responses consisting of two terms (e.g. French Canadian) were considered as a single group and were coded and tabulated as a single ethnicity. In addition, persons reporting combinations of ethnic groups such as "German-Bavarian" were tabulated as a single group (i.e., German). Responses such as "Polish-American" or "Italian-American" were coded and tabulated as a single entry (i.e., "Polish" or "Italian"). A sole entry of "American" was tabulated in the category "Ethnicity not specified." Entries of religious groups were not coded separately and were tabulated in the category "Ethnic group not specified."

ETHNICITY CHARACTERISTICS

In 1980 Chamorros continued to be the largest ethnic group on Guam, although their proportion of the total population was the smallest of any of the decennial censuses in this century (Table 8.1 and Figure 8.1). From 92 percent in the 1920 census, the proportion of Chamorros remained high until the outbreak of World War II (89 percent in 1930 and 90 percent in 1940); subsequently, the percentage of the population that was Chamorro decreased drastically as large numbers of military persons immigrated in the 1940s, and many Filipinos immigrated in the 1960s and 1970s, particularly after the change in the immigration laws in 1965.

Table 8.1. Ethnicity: 1920 to 1980

Ethnicity and Birthplace	1980	1960	1950	1940	1930	1920
Total.....	105,979	67,044	59,498	22,290	18,509	13,275
Chamorros.....	47,825	34,762	27,124	20,177	16,402	12,216
Filipinos.....	22,447	8,580	7,258	569	365	396
Whites.....	26,901	20,724	22,920	785	1,205	280
Others.....	8,806	2,978	2,196	759	537	383
Total.....	100.0	100.0	100.0	100.0	100.0	100.0
Chamorros.....	45.1	51.8	45.6	90.5	88.6	92.0
Filipinos.....	21.2	12.8	12.2	2.6	2.0	3.0
Whites.....	25.4	30.9	38.5	3.5	6.5	2.1
Others.....	8.3	4.4	3.7	3.4	2.9	2.9

Source: U.S. Bureau of the Census Decennial Reports.

In 1950, Chamorros constituted only 46 percent of the population (half the percentage of only 10 years earlier - although numbers increased by about 7,000). On the other hand, Whites increased from 4 percent of the population in 1940 to 39 percent in 1950 and Filipinos increased from 3 percent to 12 percent during the period. The percentage of persons of other ethnicities remained low throughout the period.

By 1960, more than half the population was again Chamorro, but this gain was as much due to departing military personnel before the 1960 census as to gains in the Chamorro population itself. Although the Chamorro population increased by 6 percentage points, this was more than offset by the 8 percentage point decrease for Whites.

No ethnic data were tabulated in 1970, breaking the string of census data on ethnicity. Unfortunately, the 1980 Census data are also rather ambiguous. As noted in the definitions section, respondents could give any number of ethnicities, with the first two being coded. Therefore, some persons responded with a single ancestry response and others with more than one response. Since many people gave two or more responses, the sum of the responses was greater than the number of persons, which complicated the analysis of the data. Also, although the Census Bureau provided codes for Chamorro, Guamanian, Filipino, and other Asian and Pacific Islander groups, there was no acceptable code for "White" which has made analysis very difficult; all of the analysis here should be treated as little more than tentative.

In the analysis here we have used a convention for Whites: all persons who reported as European (or one of the European groups) either alone or in combination with other groups were included, as were persons who gave other single ancestry responses not coded in one of the Asian or Pacific Islander groups, and persons who did not respond. This convention assumes that Asian and Pacific Islander persons would respond to the question and would respond with an appropriate Asian or Pacific Islander response. Hence, their responses should not appear in either the "other single" response category

since they would have been coded into the proper Asian or Pacific Islander category, and they would not appear in the categories "Not Reported" and "Not Specified" since normally they would have responded. This definition of "White", therefore, includes all "Blacks" and any "Hispanics" who did not choose one of the European categories for ethnic response. It is also important to note that persons of Chamorro and "White" ancestry (941 altogether) are included in both groups. By this definition, "White" became the second largest group in 1980 at 25 percent.

In 1980, Filipinos remained the third ranking group with 22,447 persons identified by single ethnicity (21 percent of the total population). Filipinos increased by 8 percentage points during the 20 year period since the last time ethnic data were collected in a decennial census on Guam. This increase was mostly at the expense of Whites (who decreased by 5 percent during the period and Chamorros (who decreased by 6 percent). On the other hand, the percentage of "Other races" almost doubled during the period, growing from 4 percent to more than 8 percent; most of these persons were other Asian immigrants and Micronesians from the other islands in the areas (including some Carolinians from the Northern Mariana Islands.)

Figure 8.1 Ethnicity: 1920 to 1980
(Percent)

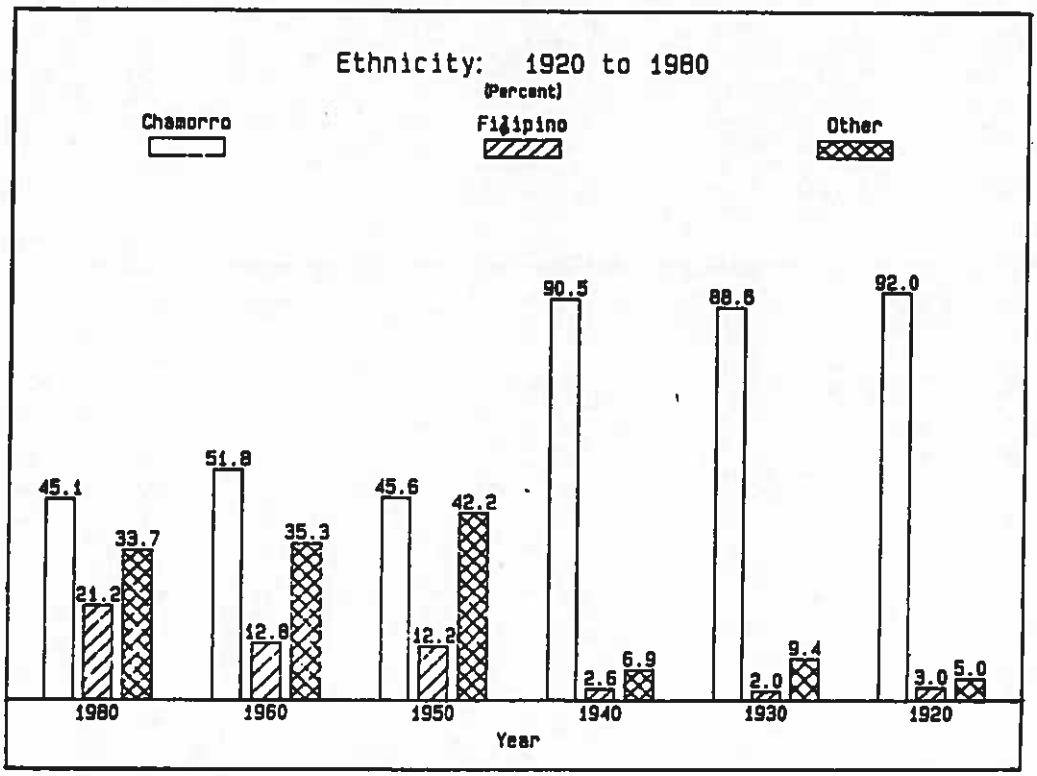


Table 8.2 shows the percentage change for the largest ethnic groups between adjacent censuses. Only Chamorros have shown fairly consistent increases in population during the period (although the last period was 20 years compared to 10 years for the other periods.) Chamorros increased by between 23 and 28 percent between adjacent censuses during the century.

Whites increased by more than 300 percent between 1920 and 1930, but the absolute numbers were rather small. Between 1930 and 1940 the percentage of Whites decreased by about one-third, and then leaped by more than 2000 percent during the next decade because of the military occupation and building of armed forces establishments on the island in the latter part of the 1940s. As the military build-up wound down in the late 1960s, Whites left the island, so that the 1960 census showed about a 10 percent decrease from 1950. During the 20 years preceding the 1980 census, the population began to increase again.

Filipinos also showed huge increases and decreases. Although the number of Filipinos decreased somewhat between 1920 and 1930, there was more than a 50 percent increase during the next decade. Between 1940 and 1950 the Filipino population increased by more than 1000 percent, partly as a result of Filipinos in the military, and partly, due to persons leaving the Philippines about the time of Philippines independence in 1944.

Filipinos continued to increase modestly between 1950 and 1960, but after 1960, Filipino growth was the largest of any of the major groups, growing more than 100 percent during the 20 year period, because of the change in the U.S. immigration laws allowing more Filipinos to come to the U.S., and, therefore, to Guam as well.

Table 8.2. Change in Ethnicity: 1920 to 1980

Ethnicity	1960 to 1980	1950 to 1960	1940 to 1950	1930 to 1940	1920 to 1930
Total.....	58.1	12.7	166.9	20.4	39.4
Chamorros.....	37.6	28.2	34.4	23.0	34.3
Filipinos.....	161.6	18.2	1175.6	55.9	-7.8
Whites.....	29.8	-9.6	2819.7	-34.9	330.4

Source: U.S. Bureau of the Census Decennial Reports.

PLACE OF BIRTH

By 1980, almost 3 out of every 10 persons on Guam were foreign born (see also Chapter 7 on migration.) The proportion of foreign born (those not born in the United States, Guam, or one of the U.S. territories) almost doubled between 1970 and 1980, although the proportion had remained pretty constant between 1950 and 1950 and 1970. Data for Filipinos and for Guam's population as a whole before 1950 are not comparable with the later data because persons born in the Philippines were considered native from 1898 at the end of the Spanish-American war until Philippines independence in 1944. So, for the earlier censuses it is not possible to tell what percentage of

the "natives" were born in the Philippines; these persons were listed as foreign born in 1950 and after (Table 8.3 and Figure 8.2).

The proportion of foreign born Chamorros has remained small, but has been increasing in recent years, and, in fact, almost doubled between 1960 and 1980, increasing from about 3 percent of the Chamorro population in 1960 to more than 5 percent in 1980. It is not clear what proportion of these Chamorros are part-Chamorro, and how that would affect reporting for ethnicity and birthplace.

The foreign-born White population increased significantly between 1960 and 1980, the percentage being more than 4 times as large in 1980 as in 1960, but much of this increase is probably due to the redefinition of "White" in 1980. It will be necessary to look at the 1990 census results which will allow for self-identification of "Whites" to see whether this is a real trend.

The proportion of foreign-born Filipinos has been decreasing since 1950, the first decennial census to include Philippines as foreign born. The percentage of foreign-born Filipinos decreased from 94 percent in 1950 to 83 percent in 1960 and 77 percent in 1980. As Filipinos have children on Guam and their children have children, the proportion of native born should increase (unless there is further massive immigration of Filipinos from the Philippines.)

Figure 8.2 Percent Foreign Born: 1920 to 1980

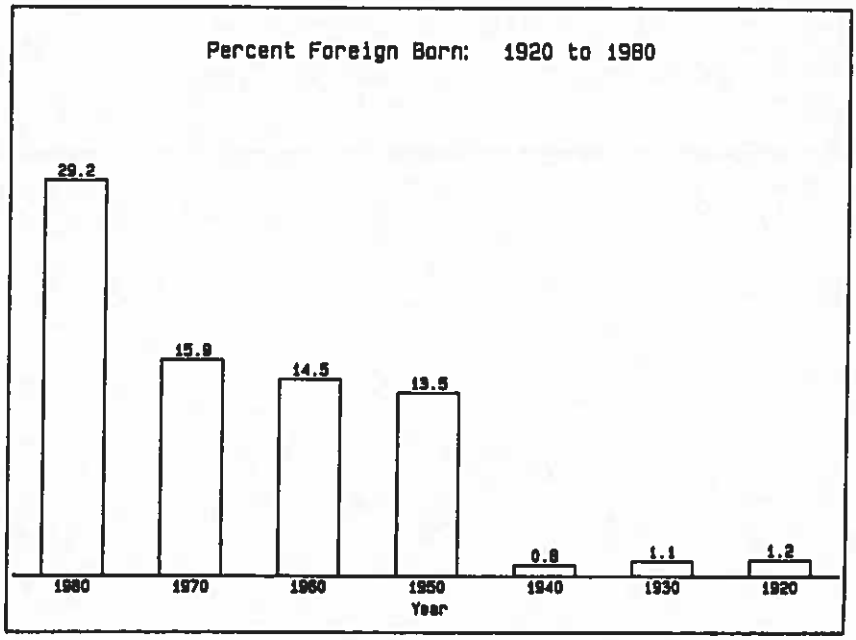


Table 8.3. Ethnicity by Birthplace: 1920 to 1980

Ethnicity and Birthplace	1980	1970	1960	1950	1940	1930	1920
Total.....	105,979	84,996	67,044	59,498	22,290	18,509	13,275
Native.....	75,063	71,512	57,345	51,459	22,114	18,300	13,113
Foreign born.	30,916	13,484	9,699	8,039	176	209	162
Percent....	29.2	15.9	14.5	13.5	.8	1.1	1.2
Chamorros.....	47,825	(NA)	34,762	27,124	20,177	16,402	12,216
Native.....	45,173	(NA)	33,769	26,521	20,089	16,319	12,187
Foreign born.	2,652	(NA)	993	603	88	83	29
Percent...	5.5	(NA)	2.9	2.2	.4	.5	.2
Filipinos.....	22,447	(NA)	8,580	7,258	569	365	396
Native.....	5,249	(NA)	1,489	403	568	364	394
Foreign born.	17,198	(NA)	7,091	6,855	1	1	2
Percent....	76.6	(NA)	82.6	94.4	.2	.3	.5
Whites.....	26,901	(NA)	20,724	22,920	785	1,205	280
Native.....	22,204	(NA)	19,856	22,560	740	1,139	236
Foreign born.	4,697	(NA)	868	360	45	66	44
Percent....	17.5	(NA)	4.2	1.6	5.7	5.5	15.7

Notes: People Born in Philippines considered native until 1944; Whites in 1980 were combinations of ethnic groups not comparable.
Source: U.S. Bureau of the Census Decennial Reports

The changes between adjacent censuses highlight the affects of the foreign born population on Guam. During the early decades of the century, between 1920 and 1940, the increase in the native population was faster than the foreign born sector (with the foreign-born actually showing a decrease between 1930 and 1940.)

The data for foreign-born Chamorros are probably suspect, and the numbers are rather small in any case. Foreign-born whites showed the same rollercoaster pattern of Whites in general, with native born Whites increasing more rapidly between 1920 and 1930, then both experienced about a one-third decline during the next decade, native born whites in the military increasing more rapidly than foreign born during the big migration. (Although the foreign born increase of 700 percent is impressive, the relative numbers were small). Between 1950 and 1960 the native born White population actually decreased by more than 10 percent while the foreign-born Whites continued to increase, more than doubling during the decade. And again, although the numbers for 1980 are suspect, the increase of foreign-born between 1960 and 1980 was considerable.

Table 8.4. Change in Ethnicity by Birthplace: 1920 to 1980

Ethnicity and Birthplace	1970 to 1980	1960 to 1970	1950 to 1960	1940 to 1950	1930 to 1940	1920 to 1930
Total.....	24.7	26.8	12.7	166.9	20.4	39.4
Native.....	5.0	24.7	11.4	132.7	20.8	39.6
Foreign born.	129.3	39.0	20.6	4467.6	-15.8	29.0
Chamorros.....	37.6	NA	28.2	34.4	23.0	34.3
Native.....	33.8	NA	27.3	32.0	23.1	33.9
Foreign born.	167.1	NA	64.7	585.2	6.0	186.2
Filipinos.....	161.6	NA	18.2	1175.6	56.0	-7.8
Native.....	252.5	NA	269.5	...	...	...
Foreign born.	142.5	NA	3.4	...	...	...
Whites.....	29.8	NA	-9.6	2819.7	-34.9	330.4
Native.....	11.8	NA	-12.0	2948.6	-35.0	382.6
Foreign born.	441.1	NA	141.1	700.0	-31.8	50.0

Note: The figures in the 1970-1980 column for the ethnic groups represent the change between 1960 and 1980 since ethnic data were not collected in the 1970 census.
Source: U.S. Bureau of the Census Decennial Reports

In 1980, Chamorros still maintained the dominance experienced since the beginning of the century. Of the 105,979 persons, 44,299 or 42 percent reported single Chamorro ethnicity, that is Chamorro and no other ethnicity (Table 8.5). Another 3,546 (3 percent) reported Chamorro in combination with other ethnicity responses. A final 1 percent reported "Guamanian", a difficult group to deal with since it is not known whether these are latter-day Chamorros who feel a kind of separation from older Chamorros or these are persons of other races or ethnic groups who have chosen Guamanian ethnicity because of birthplace or affiliation.

Once again, the second largest ethnic group was Filipino (21 percent). No other major group had as much as 10 percent of the population. There were almost 2,000 Japanese and about an equal number of Koreans, defined by single ancestry. About 1,300 Palauans identified themselves on the basis of ethnicity.

More than 3 of every 4 persons born on Guam in 1980 were Chamorro single ancestry, and another 6 percent were part-Chamorro. Almost 9 percent of all persons born on Guam and living on the island in 1980 were Filipino. On the other hand, more than 4 in every 10 persons born off island were Asian, with 1 in 3 of all off-islanders being Filipino. That is, one-third of all the persons living on Guam in 1980 but not born on the island were Filipinos. About 1 in 7 were "European".

The final column in Table 8.5 shows the percentage of persons in each of the ethnic groups who were born on Guam. Only 49 percent of Guam's population was born on island. As would be expected, more than 9 of every

10 Chamorros were born on Guam, with most of the rest presumably born in the Northern Mariana Islands. More than 8 in 10 of the Guamanians were born on island as were more than 3 out of every 4 persons claiming multiple ethnic responses.

On the other hand, only 18 percent of the Asians were born on Guam, 1 in 5 of the Filipinos, 1 of every 10 Japanese, and 1 of every 14 Koreans. Europeans constituted 8 percent of those born on Guam.

Table 8.5. Ethnicity by Birthplace: 1980

Ethnicity	Numbers			Percent			Percent Guam of Total
	Total	Guam Born	Not Guam	Total	Guam Born	Not Guam	
Total persons	105,979	52,113	53,866	100.0	100.0	100.0	49.2
Single Ethnic group	94,839	48,332	46,507	89.5	92.7	86.3	51.0
Chamorro	44,299	40,461	3,838	41.8	77.6	7.1	91.3
Guamanian	830	694	136	.8	1.3	.3	83.6
Palauan	1,335	480	855	1.3	.9	1.6	36.0
Other Pacific Islander	891	210	681	.8	.4	1.3	23.6
Asian	28,647	5,099	23,548	27.0	9.8	43.7	17.8
Filipino	22,447	4,519	17,928	21.2	8.7	33.3	20.1
Japanese	1,855	197	1,658	1.8	.4	3.1	10.6
Korean	1,873	126	1,747	1.8	.2	3.2	6.7
European	8,442	629	7,813	8.0	1.2	14.5	7.5
Other single group	10,395	759	9,636	9.8	1.5	17.9	7.3
Multiple ethnic group	3,990	3,105	885	3.8	6.0	1.6	77.8
Chamorro and other	3,546	3,036	510	3.3	5.8	.9	85.6
Asian and other	2,963	2,643	320	2.8	5.1	.6	89.2
European and other	914	392	522	.9	.8	1.0	42.9
Not spec./Not reported	7,150	676	6,474	6.7	1.3	12.0	9.5

Source: U.S. Bureau of the Census PC80-1-C/D54, Table 26.

MEDIAN AGE

Again, because of migration, the median age of the various population components has not shown the kinds of general trends expected in modernizing populations. The median age of the population increased between 1930 and 1950, then decreased to 1960, and then increased again to 1980, partly as a result of the influx of relatively older Filipino migrants and reduced fertility of Chamorro women (Table 8.6 and Figure 8.3).

The Chamorro population, as it has in many areas, shows a fairly typical pattern of an economically developing population. The median age decreased fairly steadily from 1930 to 1960, and then suddenly increased between 1960 and 1980. As was discussed in the fertility chapter, the decrease in median age was almost certainly due to decreasing mortality, and the subsequent increase in fertility, followed in the 1960s and 1970s by delay of marriage and child bearing.

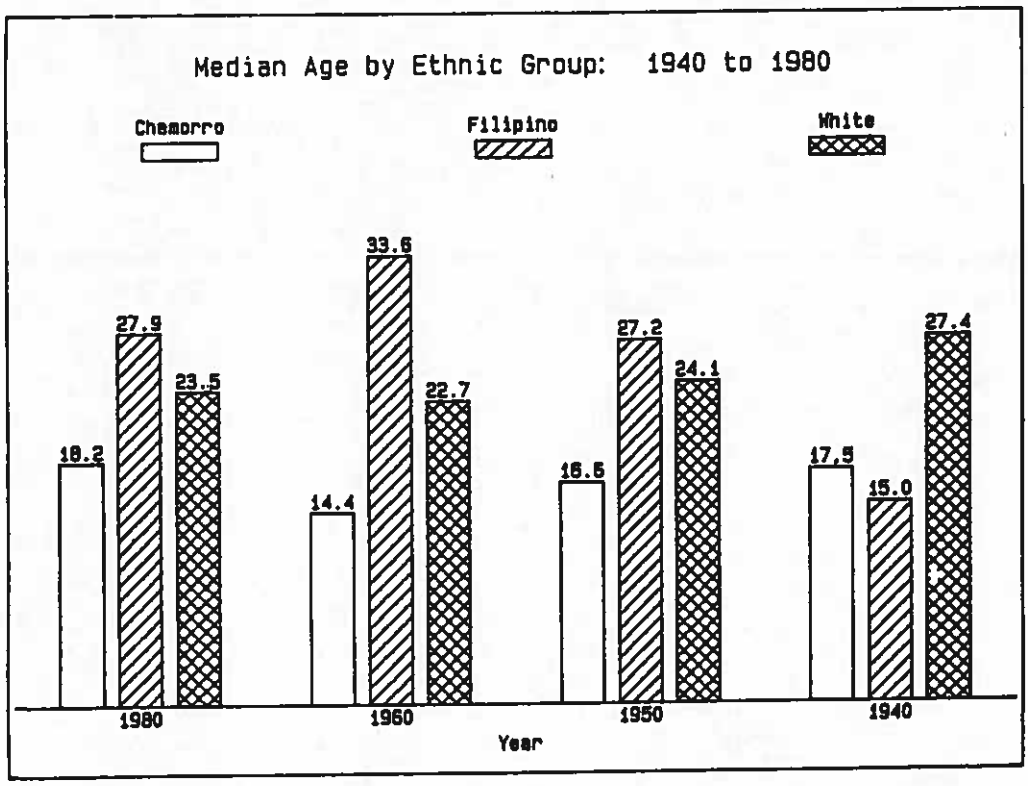
Because of the large numbers of immigrants, neither the Filipinos nor the Whites show this pattern. Among the Filipinos, for example, the median age started out lower than for Chamorros in 1930 and 1940, but as immigration increased, so did the median age, rising to 33.3 in 1960 (but still being offset by the very low median age of Chamorros, in what might be called a Renaissance of Chamorro fertility.) The median age of the White population has fluctuated quite a bit, depending on military activity.

Table 8.6. Median Age of Ethnic Groups: 1930 to 1980

Age Group	1980	1960	1950	1940	1930
Total.....	22.3	20.8	22.8	17.9	18.8
Chamorro.....	18.2	14.4	16.6	17.5	18.1
Filipino.....	27.9	33.6	27.2	15.0	17.8
White.....	23.5	22.7	24.1	27.4	24.6

Source: U.S. Bureau of the Census Decennial Reports.

Figure 8.3 Median Age by Ethnic Group: 1940 to 1980



The young age of the Chamorros is seen in the distribution by age group (Table 8.7). The percentage of the population under 5 increased from 18 percent in 1930 to 21 percent in 1950 before decreasing to only 13 percent in 1980, a decrease of one-third during the 30 years. The very low median age for 1960 is verified by the young ages for that census, and the gradual aging of the population in 1980. The percentage of aged remained low.

Table 8.7. Chamorros by Age: 1930 to 1980

Age Group	1980	1960	1950	1940	1930
Total.....	47,845	34,762	27,124	20,177	16,402
Percent.....	100.0	100.0	100.0	100.0	100.0
Less than 5 yrs.	13.2	18.9	20.6	17.0	18.0
5 to 9 yrs.....	14.3	17.4	12.6	14.9	13.7
10 to 14 yrs....	14.1	15.4	13.3	12.9	12.1
15 to 19 yrs....	13.2	8.9	11.0	10.2	10.2
20 to 24 yrs....	8.3	6.8	8.6	7.8	8.6
25 to 29 yrs....	7.4	5.6	6.5	7.4	7.5
30 to 34 yrs....	6.2	5.6	5.6	6.2	6.1
35 to 44 yrs....	8.3	8.3	9.3	9.5	9.7
45 to 54 yrs....	7.1	6.3	6.0	6.5	6.5
55 to 64 yrs....	4.3	3.9	3.7	4.3	4.9
65 yrs or more..	3.6	2.8	2.7	3.1	2.7

Source: U.S. Bureau of the Census Decennial Reports.

The change between adjacent censuses is also revealing (Table 8.8). The number of persons 0 to 4 years old decreased by more than 4 percent between 1960 and 1980, the only age group for Chamorros to decrease during the half century. On the other hand, the population 15 to 19 more than doubled, probably because of the double affects of the baby boom, and the smaller than average group of 15 to 19 year olds in 1960. The persons who would have been 15 to 19 in 1960 would have been born between 1941 and 1945, during the period of the Japanese occupation when fertility was unnaturally low because of the conditions on the island. This phenomenon is seen in the very small increase in the 15 to 19 year olds between 1950 and 1960, and the even smaller increase for persons 20 to 24 in between 1950 and 1960.

Table 8.8. Change in Chamorro Population by Age: 1930 to 1980

Age Group	1960 to 1980	1950 to 1960	1940 to 1950	1930 to 1940
Total.....	37.6	28.2	34.4	23.0
Less than 5 yrs.	-4.1	17.6	62.8	16.6
5 to 9 yrs.....	12.6	77.6	13.6	33.4
10 to 14 yrs....	26.7	47.7	38.5	31.6
15 to 19 yrs....	103.4	4.0	44.9	23.6
20 to 24 yrs....	68.1	1.1	47.5	12.3
25 to 29 yrs....	80.6	10.5	18.7	20.1
30 to 34 yrs....	53.4	27.2	21.4	25.4
35 to 44 yrs....	36.9	14.6	31.3	21.1
45 to 54 yrs....	54.7	34.6	24.5	22.2
55 to 64 yrs....	51.8	36.2	15.7	7.1
65 yrs or more..	78.8	32.1	16.7	43.5

Source: U.S. Bureau of the Census Decennial Reports.

The change in the distribution of the Filipino population shows the affects of migration (Table 8.9). Although the Filipino populations in 1930 and 1940 were very small, they showed fairly regular distributions. By 1950, more than half of the Filipino population was between 20 and 29 years old, and this bulge continued through the 1960 and 1980 censuses, although other immigrants came during the later periods as well.

Table 8.9. Filipinos by Age: 1930 to 1980

Age Group	1980	1960	1950	1940	1930
Total.....	22,447	8,580	7,258	569	365
Percent.....	100.0	100.0	100.0	100.0	100.0
Less than 5 yrs.	11.0	8.7	2.6	19.2	17.5
5 to 9 yrs.....	10.4	6.2	.7	15.3	16.4
10 to 14 yrs....	9.0	2.5	.5	15.6	10.7
15 to 19 yrs....	7.8	.9	1.8	10.0	9.6
20 to 24 yrs....	6.4	1.4	33.2	6.9	9.9
25 to 29 yrs....	9.3	10.5	25.5	4.9	8.5
30 to 34 yrs....	9.4	27.3	12.8	5.4	6.3
35 to 44 yrs....	12.8	28.4	17.2	9.8	9.6
45 to 54 yrs....	12.1	12.3	4.9	5.4	4.1
55 to 64 yrs....	8.1	1.4	.6	4.4	3.0
65 yrs or more..	3.8	.3	.1	8.0	4.4

Source: U.S. Bureau of the Census Decennial Reports.

Between 1930 and 1940, Filipinos increased by 56 percent, and then by 1176 percent during the next decade because of immigration after the war (and Philippines' independence.) The median age for Filipinos decreased between 1930 and 1940, mostly due to decreased fertility, although there may also have been some emigration during the decade. The largest increase was

in the 20 to 44 year age groups. However, in 1950 a clear indication of the heavy immigration was seen in the 20 to 54 year old ages. Most of this increase was due to alien laborers imported for construction work with the military where massive construction activities took place, and the rebuilding of Guam's civilian infrastructure from the destruction caused by World War II.

Between 1950 and 1960, the number of Filipinos increased by 18 percent. While the proportion of children increased, the working age group 20 to 29 years old decreased by 126 percent. On the other hand, the age group 30 to 34 increased by 442 percent, again because of selective immigration. Because of the labor shortage hampering Guam's growth, the Filipinos moved into the labor force as the need for more construction workers developed. In late 1962, another disaster struck Guam in the form of Typhoon Karen, devastating about 90 percent of the homes; more Filipinos came then in order to build houses and other structures.

The Filipino population, the third ranking group in 1980, more than doubled between 1960 and 1980, and comprised 21 percent of the population in 1980. Another typhoon, this time named Pamela, hit the island in 1976, eliminating almost every wooden structure on the island, and causing renewed immigration of Filipinos for construction activities.

Table 8.10. Change in the Filipino Population by Age: 1930 to 1980

Age Group	1960 to 1980	1950 to 1960	1940 to 1950	1930 to 1940
Total.....	161.6	18.2	1175.6	55.9
Less than 5 yrs.	231.9	290.6	75.2	70.3
5 to 9 yrs.....	339.7	983.7	-43.7	45.0
10 to 14 yrs....	832.7	456.4	-56.2	128.2
15 to 19 yrs....	2077.5	-39.4	131.6	62.9
20 to 24 yrs....	1050.0	-94.8	6071.8	8.3
25 to 29 yrs....	131.0	-51.2	6514.3	-9.7
30 to 34 yrs....	-10.2	151.7	2900.0	34.8
35 to 44 yrs....	17.6	95.0	2132.1	60.0
45 to 54 yrs....	157.4	195.0	1054.8	106.7
55 to 64 yrs....	1426.9	197.5	60.0	127.3
65 yrs or more..	3316.0	150.0	-41.2	6.2

Source: U.S. Bureau of the Census Decennial Reports.

The second largest ethnic group was the Whites (Table 8.11). In 1940, Whites (785 persons) had decreased 35 percent from the 1,205 persons in 1930. After the Liberation of Guam on July 21, 1944, an influx of military personnel with their dependents greatly increased the count of Whites; in 1950, this group comprised almost 38 percent of the total population, an increase of 3820 percent since 1940.

Table 8.11. Whites by Age: 1930 to 1980

Age Group	1980	1960	1950	1940	1930
Total.....	26,901	20,724	22,920	785	1,205
Percent.....	100.0	100.0	100.0	100.0	100.0
Less than 5 yrs.	12.3	14.6	7.3	7.4	4.7
5 to 9 yrs.....	9.6	10.8	4.0	5.2	4.5
10 to 14 yrs....	6.7	7.3	1.6	2.5	1.9
15 to 19 yrs....	8.3	7.7	15.9	4.2	13.3
20 to 24 yrs....	18.5	18.3	26.0	21.4	28.0
25 to 29 yrs....	13.7	11.2	14.3	19.0	17.9
30 to 34 yrs....	11.7	9.7	11.9	15.9	11.8
35 to 44 yrs....	11.3	13.6	12.4	15.8	11.4
45 to 54 yrs....	4.4	4.8	5.3	4.7	4.6
55 to 64 yrs....	2.4	1.7	1.1	2.7	1.4
65 yrs or more..	1.0	.4	.2	1.1	.5

Note: Whites in 1980 derived by adding European single and multiple ethnicity, other single ethnicity, and not reported.
Source: U.S. Bureau of the Census Decennial Reports.

The most significant change was in the age group 15-19 years which increased 10,970 percent (Table 8.12) from 1940 to 1950. By 1960, the same age group decreased by 57 percent. While uniformed personnel declined by 10 percent, an increase of the younger ages occurred, an indication that immigration of military dependents took place. By 1980, this group increased 30 percent (26,901 persons) making up 25 percent of the total population (105,979).

Table 8.12. Change in the White Population by Age: 1930 to 1980

Age Group	1960 to 1980	1950 to 1960	1940 to 1950	1930 to 1940
Total.....	29.8	-9.6	2819.7	-34.9
Less than 5 yrs.	9.7	80.0	2793.1	1.8
5 to 9 yrs.....	15.9	145.8	2122.0	-24.1
10 to 14 yrs....	20.3	309.5	1735.0	-13.0
15 to 19 yrs....	40.9	-56.5	10969.7	-79.4
20 to 24 yrs....	31.1	-36.3	3444.0	-50.1
25 to 29 yrs....	59.1	-29.5	2106.7	-31.0
30 to 34 yrs....	56.0	-26.2	2076.8	-12.0
35 to 44 yrs....	7.3	-.7	2196.8	-9.5
45 to 54 yrs....	20.5	-18.8	3191.9	-33.9
55 to 64 yrs....	77.6	47.2	1071.4	23.5
65 yrs or more..	284.9	102.8	300.0	50.0

Source: U.S. Bureau of the Census Decennial Reports

CHARACTERISTICS OF ETHNIC GROUPS

Although ethnicity was not one of the major variables used in the cross-tabulations for the 1980 census (in PC80-1-C/D54), most of the major variables were cross-tabulated with ethnicity, so a picture of the ethnic make-up of the population in 1980 can be determined.

The largest ethnic group, Chamorros, was divided into full- and part-Chamorros for the census tabulations, with full-Chamorro being persons who stated that they were only of Chamorro ancestry and part-Chamorros declaring Chamorro and other ancestries. Almost 48,000 persons claimed either full- or part-Chamorro ancestry. The single and multiple designations were not considered for Filipino since the multiple could not be disaggregated from all Asian multiples; only Filipinos with single ancestry reports were used. The procedures described previously for defining Whites were used in the cross-tabs presented here.

As noted in Table 8.8, the median age for the population on Guam in 1980 was 22.3 years. The Chamorro median age was 18.2, Filipino median age was 27.9, and the median for Whites was 23.5. The median age for full-Chamorros of 18.9 years was somewhat higher than the 12.5 years for part-Chamorros. This phenomenon of younger aged multiples has been discussed for United States populations previously (Levin and Farley, 1982), and is caused by the fact that multiples can occur either as the offspring of two singles or from a single and a multiple, or from two multiples, whereas a single ancestry response should normally come only as the offspring of identical single reports. Since the universe for singles is more restricted, they tend to be older.

Almost 60 percent of the part-Chamorros were under 15 years old compared to only 40 percent of the full-Chamorros (Table 8.13). In this table Whites were defined as those of single and multiple European ancestry and "other" single ancestry. The largest percentages of Whites were between 20 and 44 years old, while Chamorros were focussed in the younger ages, and Filipinos were older with 1 in 4 being between 35 and 54 years old.

Table 8.13. Ethnicity by Age: 1980

Age Group	All Persons	Chamorro Total	Chamorro Full	Chamorro Part	Filipino	White	Not Specif. or NR	All Others
Total.....	105,979	47,845	44,299	3,546	22,447	19,751	7,150	8,786
Percent.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Less than 5 yrs.	12.3	13.2	12.7	19.8	11.0	12.9	10.8	10.3
5 to 9 yrs.....	11.9	14.3	13.8	19.8	10.4	9.7	9.4	10.0
10 to 14 yrs....	10.7	14.1	13.6	20.5	9.0	6.5	7.2	8.4
15 to 19 yrs....	10.4	13.2	12.7	19.8	7.8	7.9	9.4	8.0
20 to 24 yrs....	10.5	8.3	8.2	8.7	6.4	18.4	18.7	8.5
25 to 29 yrs....	9.7	7.4	7.5	5.6	9.3	14.2	12.4	11.6
30 to 34 yrs....	8.8	6.2	6.6	1.7	9.4	11.8	11.1	12.2
35 to 44 yrs....	10.7	8.3	8.8	1.3	12.8	11.2	11.6	16.4
45 to 54 yrs....	7.7	7.1	7.6	1.2	12.1	4.2	5.1	9.8
55 to 59 yrs....	2.7	2.4	2.6	.6	5.2	1.4	1.5	2.3
60 to 64 yrs....	1.8	1.9	2.0	.6	2.9	.8	1.2	1.4
65 yrs or more..	2.8	3.6	3.9	.5	3.8	.9	1.6	1.2
Median	22.3	18.2	18.9	12.5	27.9	23.5	21.5	27.9

Source: U.S. Bureau of the Census PC80-1-C/D54 1980, Table 21.

Table 8.14 shows the distribution for each of the 5 year age groups. Although Chamorros made up 45 percent of Guam's total population in 1980, they were 60 percent of the 10 to 14 year olds and 57 percent of the 15 to 19 year olds. Their numbers generally decreased for the older ages, but they were 58 percent of the persons 65 years and over.

Chamorros were less than 1 in every 3 of the persons 30 to 34 years old. In this age group, more than 1 in 5 were Filipino, and 1 in 4 were "White". More than 1 in 3 of all persons on Guam between 35 and 64 years old were Filipino in 1980.

Table 8.14. Percent Ethnicity by Age: 1980

Age Group	All Persons	Chamorro Total	Chamorro Full	Chamorro Part	Filipino	White	Not Specif. or NR	All Others
Total.....	100.0	45.1	41.8	3.3	21.2	18.6	6.7	8.3
Less than 5 yrs.	100.0	48.5	43.1	5.4	19.0	19.6	5.9	7.0
5 to 9 yrs.....	100.0	54.0	48.5	5.6	18.5	15.2	5.3	6.9
10 to 14 yrs....	100.0	59.7	53.3	6.4	17.9	11.4	4.6	6.5
15 to 19 yrs....	100.0	57.4	51.0	6.4	15.8	14.3	6.1	6.4
20 to 24 yrs....	100.0	35.6	32.8	2.8	12.8	32.8	12.0	6.8
25 to 29 yrs....	100.0	34.1	32.2	1.9	20.2	27.1	8.6	9.9
30 to 34 yrs....	100.0	32.1	31.4	.7	22.6	25.2	8.6	11.5
35 to 44 yrs....	100.0	35.1	34.7	.4	25.4	19.5	7.3	12.7
45 to 54 yrs....	100.0	41.7	41.1	.5	33.3	10.1	4.5	10.5
55 to 59 yrs....	100.0	39.9	39.2	.7	39.9	9.5	3.8	6.9
60 to 64 yrs....	100.0	46.6	45.6	1.0	33.9	8.7	4.6	6.3
65 yrs or more..	100.0	58.5	57.9	.5	28.6	5.7	3.7	3.5

Source: U.S. Bureau of the Census PC80-1-C/D54 1980, Table 21.

Table 8.15 summarizes information from several of the previous tables. Again, while Chamorros displayed the characteristics of a fairly normal age distribution, with a gradual tapering off with age, because of the immigrant nature of the Filipinos and Whites, their age structures differed considerably from a "normal" distribution.

Table 8.15. Ethnicity by Age for Major Ethnic Groups: 1980

Age Group	All Persons	Chamorro	Filipino	White	All Others
Total.....	105,979	47,845	22,447	26,901	8,786
Percent.....	100.0	100.0	100.0	100.0	100.0
Less than 5 yrs.	12.3	13.2	11.0	12.3	10.3
5 to 9 yrs.....	11.9	14.3	10.4	9.6	10.0
10 to 14 yrs....	10.7	14.1	9.0	6.7	8.4
15 to 19 yrs....	10.4	13.2	7.8	8.3	8.0
20 to 24 yrs....	10.5	8.3	6.4	18.5	8.5
25 to 29 yrs....	9.7	7.4	9.3	13.7	11.6
30 to 34 yrs....	8.8	6.2	9.4	11.7	12.2
35 to 44 yrs....	10.7	8.3	12.8	11.3	16.4
45 to 54 yrs....	7.7	7.1	12.1	4.4	9.8
55 to 59 yrs....	2.7	2.4	5.2	1.4	2.3
60 to 64 yrs....	1.8	1.9	2.9	.9	1.4
65 yrs or more..	2.8	3.6	3.8	1.0	1.2

Source: U.S. Bureau of the Census PC80-1-C/D54 1980, Table 21.

Also, when focussing on the distribution of the three large ethnic groups, the impact of migration is clearly seen. Whites made up 45 percent

of the persons 20 to 24 in 1980, mostly because of the large number of persons of that age in the military (Table 8.16).

Table 8.16. Percent Ethnicity by Age for Major Ethnic Groups: 1980

Age Group	All Persons	Chamorro	Filipino	White	All Others
Total.....	100.0	45.1	21.2	25.4	8.3
Less than 5 yrs.	100.0	48.5	19.0	25.5	7.0
5 to 9 yrs.....	100.0	54.0	18.5	20.5	6.9
10 to 14 yrs....	100.0	59.7	17.9	15.9	6.5
15 to 19 yrs....	100.0	57.4	15.8	20.3	6.4
20 to 24 yrs....	100.0	35.6	12.8	44.8	6.8
25 to 29 yrs....	100.0	34.1	20.2	35.7	9.9
30 to 34 yrs....	100.0	32.1	22.6	33.7	11.5
35 to 44 yrs....	100.0	35.1	25.4	26.9	12.7
45 to 54 yrs....	100.0	41.7	33.3	14.6	10.5
55 to 59 yrs....	100.0	39.9	39.9	13.3	6.9
60 to 64 yrs....	100.0	46.6	33.9	13.2	6.3
65 yrs or more..	100.0	58.5	28.6	9.4	3.5

Source: U.S. Bureau of the Census PC80-1-C/D54 1980, Table 21

LABOR FORCE PARTICIPATION

Because we will not be discussing labor force participation until Chapter 10, a few conventions are presented here. The economically active population comprised all persons 16 years and over of both sexes who furnished the supply of labor available for the production of economic goods and services, and included both persons employed and unemployed during the reference period. The employed comprised all persons, including family workers who were at work or who had jobs during the specified period, whether they were full-time or part-time workers. The unemployed consisted of all persons 16 years and over who were not working and were not seeking work for pay or profit during the reference period, including those who never worked before. The total economically active population was the sum of the civilian economically active population and the armed forces. However, members of the Armed Forces were separated from the economically active population. Secondly, the "not economically active" population was comprised of home-workers, students, persons in institutions, and all other persons not included in the economically active population.

While almost 67 percent of persons 16 years and over on Guam were in the labor force (including military personnel), only 55 percent of the Chamorros were in this category (with about the same proportions of full- and part-Chamorros.) On the other hand, more than 7 in every 10 Filipinos were in the labor force, as were more than 8 in 10 of the Whites (again, as defined earlier in the broadest sense) (Table 8.17).

Part of the smaller proportions of Chamorros in the labor force can be attributed to fewer of them being in the Armed Forces. Since many Whites and Filipinos came to Guam specifically to be in the Armed Forces, they

appear in both the numerator and the denominator compared to many Chamorros who were here, and did not choose the join the military. Only 247 (2 percent) Chamorros were in the labor force and were in the military compared to 8 percent for Filipinos and 59 percent for Whites. (Still, the proportion of Chamorros in the labor force is somewhat below that of the other named groups.)

Also, Chamorros were somewhat less likely to work part-time than Whites, but slightly more likely than Filipinos to be in this category. About 14 percent of the employed population on Guam worked part-time; about 13 percent of the Chamorros were in this category, compared to 12 percent of the Filipinos, and almost 18 percent of the Whites.

All other ethnic groups, comprised of Koreans, Japanese, Chinese, Palauans, and other Asian and Pacific Islanders, constituted 9 percent of the total population 16 years and over. About 63 percent of these groups were in the labor force, and about 2 percent were in the Armed Forces. These groups made up about 11 percent of those employed in 1980, and about 8 percent of the unemployed.

As noted in Chapter 10 on labor force participation, using census data to analyze unemployment is rather problematic since the data are only at one particular point in time and are very susceptible to varitions in economic conditions at the time of the census. Labor force surveys are more appropriate mechanisms for obtaining unemployment information, partly because they are more timely, and partly because unemployment entails use of a number of concepts, not all of which are readily used in census enumeration procedures.

Nevertheless, altogether about 5 percent of the civilian labor force on Guam in 1980 was unemployed. Less than 6 percent of Chamorros were unemployed, while 4 percent of the Filipinos and 5 percent of the Whites were in this category.

Table 8.17. Ethnicity by Labor Force Participation: 1980

Labor Force Participation	All Person	Chamorro Total	Chamorro Full	Chamorro Part	Filipino	White	Not Specif or NR	All Others
Total 16 yrs and over.	66773	26542	25292	1250	15230	13780	5111	6110
In the labor force.....	44484	14541	13851	690	10741	11170	4206	3826
Percent.....	66.6	54.8	54.8	55.2	70.5	81.1	82.3	62.6
Armed Forces.....	10125	247	231	16	801	6610	2310	157
Percent.....	22.8	1.7	1.7	2.3	7.5	59.2	54.9	4.1
Civilian Labor Force...	34359	14294	13620	674	9940	4560	1896	3669
Employed.....	32692	13498	12878	620	9506	4316	1835	3537
At work 35+ hrs.....	27346	11410	10934	476	8098	3438	1537	2863
At work part-time....	4415	1715	1593	122	1117	752	261	570
Percent.....	13.9	13.1	12.7	20.4	12.1	17.9	14.5	16.6
Unemployed.....	1667	796	742	54	434	244	61	132
Percent.....	4.9	5.6	5.4	8.0	4.4	5.4	3.2	3.6
Not in Labor Force.....	22289	12001	11441	560	4489	2610	905	2284

Source: U.S. Bureau of the Census PC80-1-C/D57A 1980, Table 38.

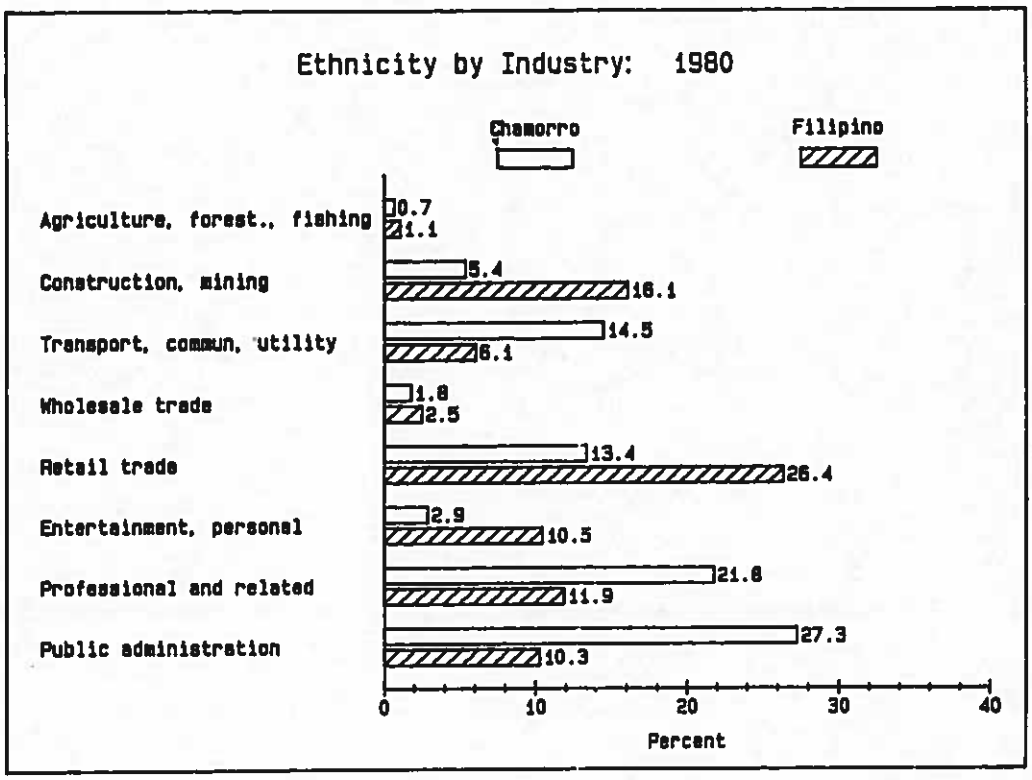
Of the 32,692 employed persons in the civilian labor force on Guam in 1980, 13,498 (41 percent) were Chamorro. Another 9,505 (29 percent) were Filipino, about 19 percent were either a White ethnic group or not reported (and assumed to be White), and about 11 percent were other ethnic groups.

Industry. Besides "subsistence" with only 14 persons, there were 11 major industry categories in the 1980 census (Table 8.18 and Figure 8.4). For the whole population of Guam, retail trade was the largest category with about 1 in 5 persons in that industry. Almost the same number worked in professional and related activities (such as doctors and nurses, teachers and teacher's aides). Slightly fewer worked in public administration.

The distribution for the ethnic groups differed significantly depending on the group. For example, more than 1 in every 4 Chamorros was in public administration (compared to less than 1 in 5 for the general population.) Also, Chamorros were in professional and related activities in slightly greater proportions than the general population, but it is important to remember here that this category included persons of all different occupations and skill levels; that is, persons who were teachers' aides at schools or nurses' aides at a hospital or clinic were included here with doctors, teachers, and lawyers. Although 20 percent of Guam's population worked in retail trade, this was true for only 13 percent of the Chamorros (although 22 percent of the part-Chamorros were in retail trade compared to only 13 percent of the full-Chamorros). Also, although only 1 in 10 of Guam's employed workers were in transportation, communication, and other utilities, 1 in 7 of the Chamorros were doing these activities. The percentage of Chamorros in construction was slightly more than half of the total population, and only 3 percent of Chamorros were in entertainment and personal industry activities compared to more than 6 percent of the total population.

The characteristics for Filipinos were very different. More than 1 in every 4 Filipinos was involved in some aspect of retail trade in 1980. The second largest industry category for Filipinos was construction, with almost 1 in every 6 Filipinos involved in this category (compared to about 1 in 20 for Chamorros). Also, more than 1 in 10 employed Filipinos were in entertainment and personal activities. Much smaller proportions of Filipinos than either Chamorros or the general population were in professional and related activities, and public administration.

Figure 8.4 Ethnicity by Industry: 1980



The activities of Whites as defined by single or multiple European ancestry and other single ethnic responses were much more restricted by category. Almost exactly 1 in every 3 Whites was in professional or related activities; another 1 in 6 was in retail trade, and about an equal number were in public administration. Hence, about 2 out of every 3 White workers were in one of these three industry categories. Consequently, few Whites worked in other industries. Only 4 percent of Whites worked in construction compared to 9 percent of Guam's population, and 8 percent worked in transportation, communication, and other utilities.

Table 8.18. Ethnicity by Industry: 1980

Industry	All Person	Chamorro Total	Chamorro Full	Chamorro Part	Filipino	White	Not Specif or NR	All Others
Employed persons.....	32692	13498	12878	620	9506	4316	1835	3537
Percent.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Agricul., forest., fishing.	.9	.7	.8	.3	1.1	.6	.9	1.0
Construction, mining.....	9.3	5.4	5.4	5.0	16.1	3.7	5.8	14.8
Manufacturing.....	4.9	4.1	4.1	4.2	6.7	4.4	5.6	3.3
Transport, commun, utility.	10.2	14.5	14.7	11.0	6.1	7.6	10.2	7.7
Wholesale trade.....	2.3	1.8	1.7	3.4	2.5	2.7	2.5	3.4
Retail trade.....	20.0	13.4	12.9	22.1	26.4	16.9	17.5	33.6
Finance, insurance.....	4.8	4.8	4.7	7.1	4.7	5.9	4.4	3.7
Business and repair serv...	3.6	3.1	3.1	4.2	3.8	3.4	3.7	5.3
Entertainment, personal....	6.4	2.9	2.8	6.1	10.5	5.3	5.7	10.5
Professional and related...	19.6	21.8	22.1	16.3	11.9	33.3	28.9	10.3
Public administration.....	17.9	27.3	27.6	20.3	10.3	16.2	14.8	6.3
Primarily subsistence.....	.0	.1	.1	0.0	0.0	0.0	0.0	.1

Source: U.S. Bureau of the Census PC80-1-C/D57A 1980, Table 43

In Table 8.19 we have disaggregated the ethnic data a little more to show the distribution for Japanese, Koreans, and Palauans. Of the 377 Palauans employed in 1980, 27 percent were in retail trade, 18 percent were doing entertainment and other personal activities, 13 percent were in transportation, communications and other utilities, and 11 percent were doing professional and related activities. Only 8 percent were in public administration.

The 855 Koreans had a very different distribution. More than 1 in every 3 Koreans were in construction in 1980, the largest percentage of any of the selected ethnic groups, and more than twice the percentage of the Filipinos. Another 31 percent of the Koreans were in retail trade, a percentage second only to the Japanese (at 37 percent). With 2 out of every 3 Koreans in either construction or retail trade, only small numbers were doing other types of industrial activities. About 9 percent of the Koreans were in business and repair services (also more than any other group). If Koreans are representative of Asian immigrants, we can expect the make up of their part of the labor force to be somewhat different from the other groups.

As noted previously, 37 percent of employed Japanese were working in retail trade in 1980. Another 17 percent were in entertainment and personal services, and 14 percent were in transportation, communication, and other utilities. As with Koreans and Palauans, the numbers of Japanese in the labor force were still comparatively small, and further immigration may produce a different distribution of activities.

Table 8.19. Ethnicity by Percent Industry: 1980

Industry	All Person	Cham-orro	Asian Total	Japan	Korea	Fipno	White	Palau-an
Employed persons.....	32692	13498	12754	927	855	9506	4316	377
Percent.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Agricul., forest., fishing.	.9	.7	1.0	.4	1.1	1.1	.6	.5
Construction, mining.....	9.3	5.4	15.9	6.5	36.1	16.1	3.7	7.4
Manufacturing.....	4.9	4.1	5.8	1.6	1.9	6.7	4.4	4.0
Transport, commun, utility.	10.2	14.5	6.5	14.1	2.7	6.1	7.6	13.3
Wholesale trade.....	2.3	1.8	2.7	3.7	1.8	2.5	2.7	4.5
Retail trade.....	20.0	13.4	28.5	37.0	31.0	26.4	16.9	27.1
Finance, insurance.....	4.8	4.8	4.6	4.1	2.0	4.7	5.9	2.4
Business and repair serv...	3.6	3.1	4.2	4.9	9.0	3.8	3.4	4.5
Entertainment, personal....	6.4	2.9	10.3	16.6	7.7	10.5	5.3	17.8
Professional and related...	19.6	21.8	11.3	7.2	4.7	11.9	33.3	10.6
Public administration.....	17.9	27.3	9.1	3.8	2.1	10.3	16.2	8.0
Primarily subsistence.....	.0	.1	.0	.1	0.0	.0	0.0	0.0

Source: U.S. Bureau of the Census PC80-1-C/D57A 1980, Table 43.

Once again, 41 percent of employed persons were Chamorro, 39 percent were Asian, and about 13 percent were "White". There was considerable variation from this pattern for individual industries. For example, Chamorros constituted 59 percent of all persons in transportation, communication, and utilities, but only 19 percent of those in entertainment and personal services, 24 percent of those in construction, and 28 percent of persons in retail trade. On the other hand, Asians were 67 percent of all persons in construction, 62 percent of those in entertainment and personal services, and 56 percent of those in retail trade. (Filipinos were more than half of all persons in construction and almost half of those in entertainment and personal services.) Whites had proportionally more than their average in professional and related activities (22 percent), finance, insurance and real estate (16 percent), and wholesale trade (also 16 percent). Koreans constituted 10 percent of all persons in construction, and 6 percent of those in business and repair services; Japanese were 7 percent of all persons in entertainment and personal services and 5 percent of those in retail trade, while Palauans were 3 percent of the entertainment and personal services industry.

There were more Filipinos employed in manufacturing than any other ethnic group, with 40 percent. The second largest group in this industry was Chamorro, making up 35 percent, followed by Whites with 12 percent, while all others contributed smaller amounts. In the wholesale trade industry, Chamorros and Filipinos were present in about equal amounts (31 percent each), while Whites were 16 percent. The retail trade industry was dominated by Filipinos (38 percent), Chamorros (28 percent), and Whites (11 percent).

Table 8.20. Percent Ethnicity by Industry: 1980

Industry	All Person	Cham-orro	Asian Total	Japan	Korea	Fipno	White	Palau-an
Employed persons.....	100.0	41.3	39.0	2.8	2.6	29.1	13.2	1.2
Agricul., forest., fishing.	100.0	35.2	47.0	1.4	3.2	37.4	9.6	.7
Construction, mining.....	100.0	23.8	66.7	2.0	10.1	50.3	5.2	.9
Manufacturing.....	100.0	34.7	46.1	.9	1.0	39.8	11.8	.9
Transport, commun, utility.	100.0	58.9	24.8	3.9	.7	17.4	9.9	1.5
Wholesale trade.....	100.0	31.4	45.1	4.5	2.0	30.9	15.5	2.3
Retail trade.....	100.0	27.5	55.6	5.2	4.0	38.3	11.1	1.6
Finance, insurance.....	100.0	41.8	37.4	2.4	1.1	28.4	16.3	.6
Business and repair serv...	100.0	35.9	45.3	3.8	6.5	30.3	12.4	1.4
Entertainment, personal....	100.0	18.9	62.3	7.3	3.1	47.6	10.9	3.2
Professional and related...	100.0	46.0	22.5	1.0	.6	17.6	22.4	.6
Public administration.....	100.0	62.9	19.9	.6	.3	16.7	11.9	.5

Source: U.S. Bureau of the Census PC80-1-C/D57A 1980, Table 43.

We have briefly described characteristics for the three major groups on Guam in 1980. Since 1980 was the first time that a decennial census collected ethnicity data for Guam, these data are only a first step in analyzing the characteristics of the population.

LANGUAGE SPOKEN AT HOME AND ABILITY TO SPEAK ENGLISH

About 36 percent of the population 5 years and over on Guam in 1980 spoke only English at home (Table 8.21). Except for Whites, of cou.se, none of the other large ethnic groups spoke English in more than half of their homes. Only 23 percent of Chamorros spoke English at home, compared to 19 percent of the Filipinos, 23 percent of the Japanese, 15 percent of the Palauans, and 7 percent of the Koreans. Slightly more than half of the part-Chamorros spoke English at home, probably due to the interracial make-up of these marriages, while only 1 in 5 of the full-Chamorros spoke English at home.

Of the 64 percent of the population 5 years and over who did not speak English at home, about 4 in 10 spoke the other language more frequently than English. The published 1980 census tabulations did not specify which language was spoken if English was not spoken, so it is not possible to tell whether Chamorros were speaking Chamorro, Filipinos speaking a language from the Philippines, etc., but certain assumptions can be made.

Less than 1 percent of Guam's population did not speak English at all, but more than 1 percent of the Filipinos spoke no English, and more than 3 percent of the Japanese and 4 percent of the Koreans fell into this category.

Although 28 percent of the population spoke English more frequently than the other language, more Chamorros were in this category (especially part-Chamorros at 53 percent), while fewer Japanese (23 percent), Palauans

(20 percent), Filipinos (18 percent), and Koreans (12 percent) were in this category. On the other hand, more than half of the Koreans, and almost half of the Filipinos, Japanese, and Palauans spoke the other language at home more often than English.

Table 8.21. Ethnicity by Language and Ability to Speak English: 1980

Language and Ability	All persons	Chamorro Total	Chamorro Single	Chamorro Multiple	Filipino	Japanese	Korean	Palauan
Total 5 yrs and over..	92977	41538	38694	2844	19971	1667	1694	1172
Percent.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Speaks only English.....	35.7	23.1	21.1	50.5	19.4	23.3	7.3	15.3
Speaks other language.....	59795	31925	30516	1409	16103	1278	1571	993
Percent.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
English more frequently..	27.9	33.0	32.1	52.7	17.7	23.2	12.2	20.0
Both equally often.....	31.3	35.2	35.4	29.8	32.9	25.3	21.1	30.8
Other language more often	40.1	31.5	32.1	17.5	48.9	48.4	62.8	48.6
Doesn't speak English....	.7	.4	.4	0.0	1.5	3.1	3.8	.5

Source: U.S. Bureau of the Census PC80-1-C/D54 1980, Table 31.

There was an inverse relationship between English language speaking at home and age; that is, the older the person, the less likely he or she was to speak English at home (Table 8.22, Figures 8.5 and 8.6). While persons over 65 constituted 3 percent of the population, for example, they were less than 1 percent of persons speaking English. On the other hand, 23 percent of the children 5 to 9 spoke English at home, compared to their 14 percent of the whole population.

The 1980 census did show that the Chamorro language was still strong. Altogether 32,034 persons 5 years and over were recorded as speaking Chamorro at home compared to the 33,182 speaking English - about equal numbers. Although smaller proportions of 5 to 9 year olds spoke Chamorro (10 percent of all Chamorro speakers compared to 14 percent of the population of that age), there was a slightly larger proportion of 10 to 14 year Chamorro speakers than in the total population. These numbers are only inferential, but do give the impression that Chamorro is still spoken in most Chamorro homes. The distribution of Philippines language speakers was much more concentrated at older ages.

Figure 8.5 Speak Only English at Home by Age: 1980
(Percent)

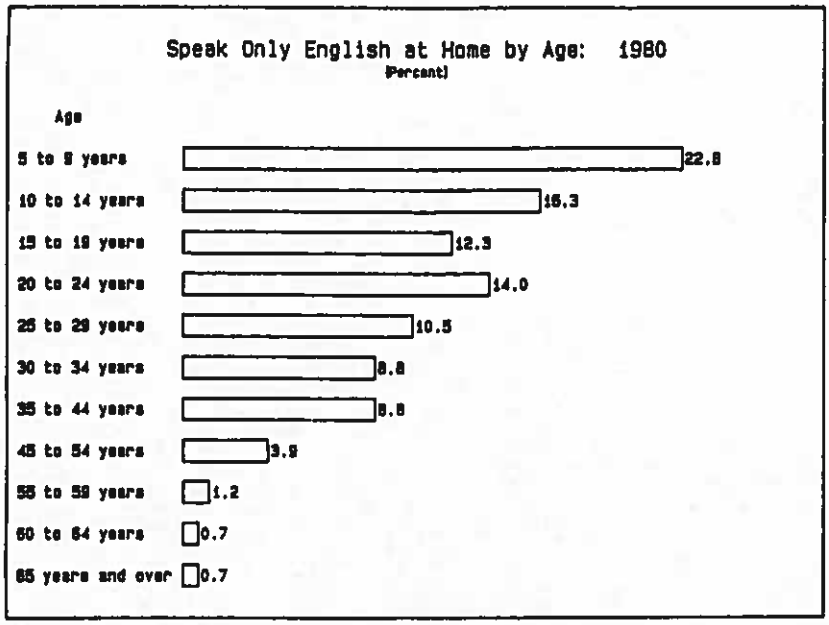


Figure 8.6 Speak Only Chamorro at Home by Age: 1980
(Percent)

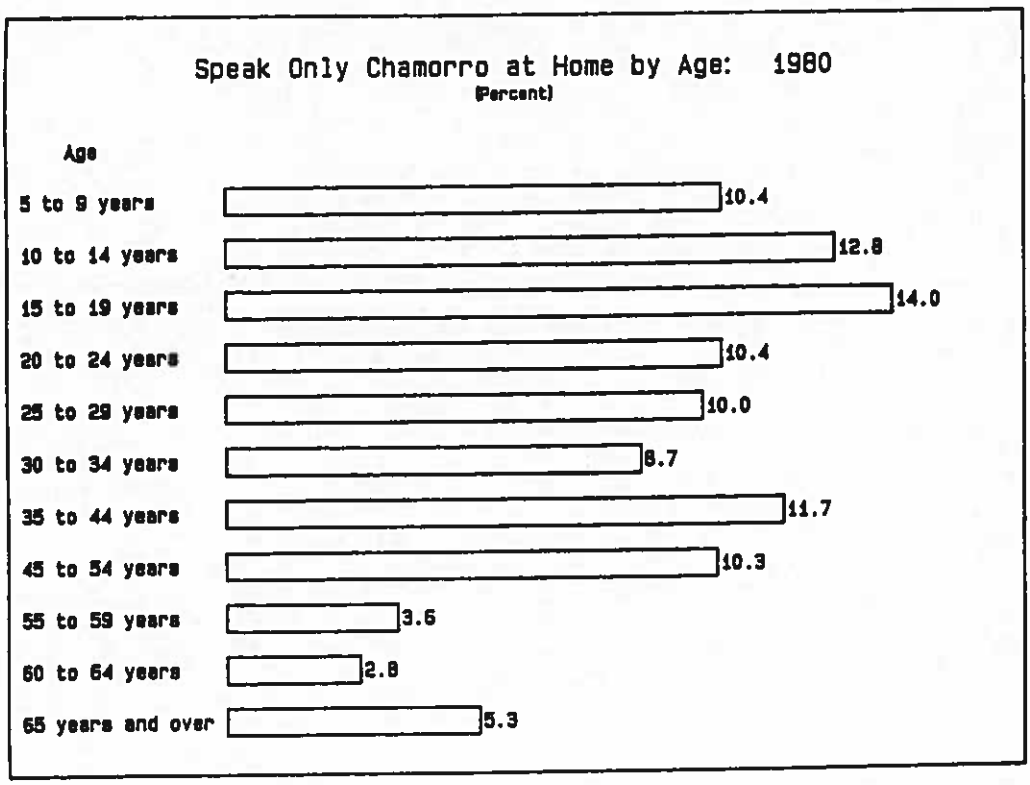


Table 8.22. Language Spoken at Home by Age: 1980

Age Group	All Persons	English Only	Non-English Language			
			Total	Cham-orro	Phippn langs	All Others
Total.....	92,977	33,182	59,795	32,034	15,487	12,274
Percent.....	100.0	100.0	100.0	100.0	100.0	100.0
5 to 9 yrs.....	13.6	22.8	8.5	10.4	4.9	8.0
10 to 14 yrs....	12.2	16.3	9.9	12.8	6.0	7.5
15 to 19 yrs....	11.8	12.3	11.5	14.0	7.6	10.1
20 to 24 yrs....	11.9	14.0	10.8	10.4	7.7	15.8
25 to 29 yrs....	11.1	10.5	11.4	10.0	12.1	14.2
30 to 34 yrs....	10.0	8.8	10.7	8.7	12.7	13.2
35 to 44 yrs....	12.1	8.8	14.0	11.7	17.1	16.1
45 to 54 yrs....	8.8	3.9	11.5	10.3	16.0	9.1
55 to 59 yrs....	3.1	1.2	4.2	3.6	6.9	2.5
60 to 64 yrs....	2.1	.7	2.8	2.8	4.0	1.5
65 yrs or more..	3.2	.7	4.6	5.3	5.2	2.0

Source: U.S. Bureau of the Census PC80-1-C/D54 1980, Table 21.

Table 8.23 shows the percentages of speakers of languages at home by age. Once again, while 36 percent of the population 5 years and over spoke only English at home, 64 percent spoke another language; Chamorro was spoken by 34 percent of the total, Philippines languages by 17 percent, and 13 percent spoke other languages. Although 60 percent of the 5 to 9 year olds spoke English at home, this was not true for any of the other age groups. In fact, as was seen in Table 8.22, the older the age group, the less likely they were to speak English at home.

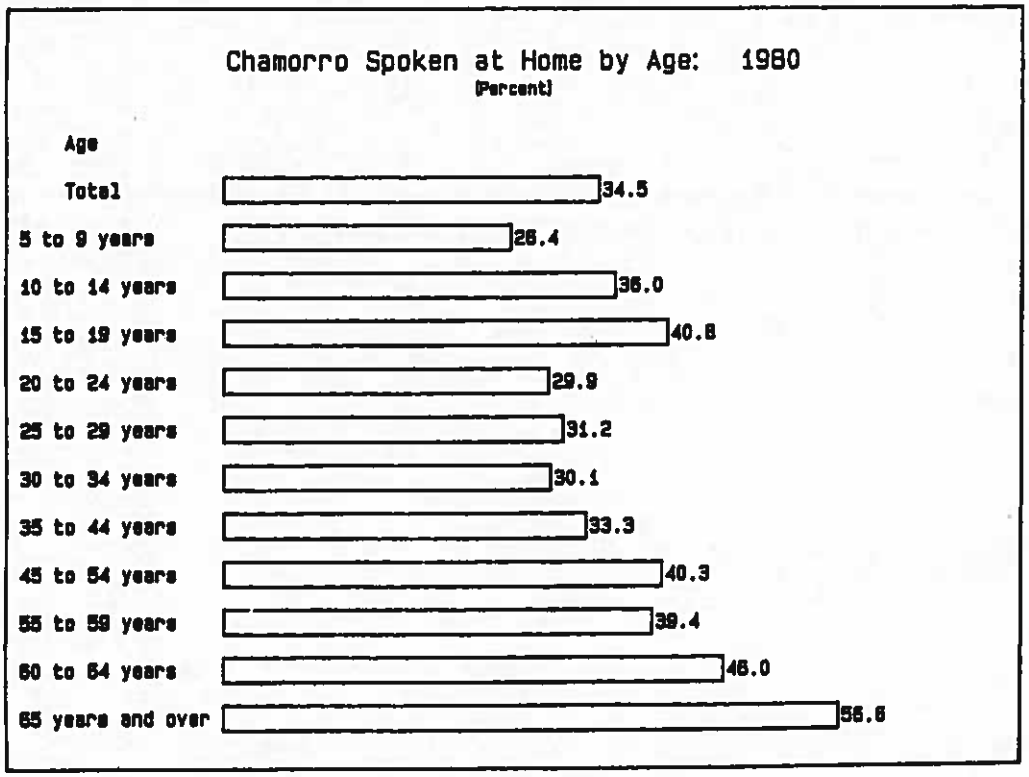
Although about 1 in 3 persons on Guam spoke Chamorro in 1980 (Figure 8.7), more than 4 in 10 of the 15 to 19 year olds were in this category, as were about 4 in 10 of persons 45 to 64 and more than half of those over 65 years old.

Table 8.23. Percent Language Spoken at Home by Age: 1980

Age Group	All Persons	English Only	Non-English Language: Total	Cham-orro	Phippn langs	All Others
Total.....	100.0	35.7	64.3	34.5	16.7	13.2
5 to 9 yrs.....	100.0	59.9	40.1	26.4	6.0	7.7
10 to 14 yrs....	100.0	47.6	52.4	36.0	8.2	8.2
15 to 19 yrs....	100.0	37.3	62.7	40.8	10.7	11.2
20 to 24 yrs....	100.0	41.9	58.1	29.9	10.7	17.5
25 to 29 yrs....	100.0	33.8	66.2	31.2	18.2	16.9
30 to 34 yrs....	100.0	31.3	68.7	30.1	21.2	17.4
35 to 44 yrs....	100.0	25.8	74.2	33.3	23.4	17.5
45 to 54 yrs....	100.0	15.7	84.3	40.3	30.3	13.6
55 to 59 yrs....	100.0	13.7	86.3	39.4	36.4	10.4
60 to 64 yrs....	100.0	12.3	87.7	46.0	31.9	9.8
65 yrs or more..	100.0	8.1	91.9	56.6	26.9	8.4

Source: U.S. Bureau of the Census PC80-1-C/D54 1980, Table 21.

Figure 8.7 Chamorro Spoken at Home by Age: 1980
(Percent)



SUMMARY

Chamorros continued to be the largest single ethnic group on Guam in 1980 (45.1 percent of the total population), although at the lowest levels recorded in any census this century. Whites were second in numbers here (25.4 percent), Filipinos third (21.2 percent). The proportions of Whites and Filipinos here is increasing, that of Chamorros is decreasing. Fully 78 percent of full Chamorros were born on Guam, as were 61 percent of part Chamorros. The median age of Chamorros (18.2 years) was the lowest of any selected ethnic group; that of the Filipinos (27.9 years) was highest. Almost 60 percent of part Chamorros were less than 15 years of age, as were 40 percent of full Chamorros. Whites were primarily 20 to 44 years of age, Filipinos were 35 to 44 years.

About 2 out of 3 of those 16 years and older were in the labor force; however, only 55 percent of Chamorros were in the labor force, compared to 70 percent of Filipinos and 81 percent of Whites. This was partly due to small numbers of Chamorros in the Armed Forces or working only part time. Those in the "Other" ethnic groups represented only 9 percent of the population but 63 percent were in the labor force. By industry, Chamorros were mostly in the fields of public administration or professional and related services, Filipinos in retail trade or construction and mining, Whites were in professional and related services or retail trade, and others were in retail trade or construction and mining.

Of the population 5 years and older, 36 percent spoke only English at home; except for Whites, no other group spoke only English in more than half of the homes. Less than 1 percent spoke no English at all. Older persons were less likely than younger ones to speak English at home.

Guam is becoming increasingly multi-ethnic and there is some evidence that multi-lingualism will continue for some time based on the current age structure of the population and the likelihood for continued immigration from Asia, the Pacific Islands, and the United States. The Census data give some general information about the ethnic distribution of the population in 1980; unfortunately since 1970 data were not available, many comparison were not possible. After the 1990 census, a better set of trends will be developed to help planners and policy makers determine the best programs for Guam's future.

CHAPTER 9
EDUCATION

Guam has been an unincorporated Territory of the United States since 1898. Therefore, its population has had a long term exposure to the United States system of education. In fact, when the island schools were first set up, both curriculum content and sequence, and the patterns of organization common to the state of California were used as models. The public schools, Guam Community College, and University of Guam are all accredited by the Western Association of Schools and Colleges (WASC), which also accredits schools in California, Hawaii, and other Western states.

Educational statistics from decennial censuses give snapshots of the school enrollment and educational attainment. The census collects two sets of characteristics for assessing the educational status of a population: level of school enrollment and level of educational attainment for adults no longer in school. These data can be used in conjunction with data from the Department of Education and other sources to obtain information about the size and characteristics about the educated and uneducated populations. Although statistical data are collected annually by the Department of Education in order to obtain adequate information about school enrollment and to assess needs for special programs in bilingual education and special education, the census allows more in-depth analysis of various characteristics of the school population, such as ethnicity, birthplace, and language spoken at home.

Also, the census collects data on educational attainment. These data can be used to assess the relationship between educational attainment and participation in the labor force, occupation and industry, income and poverty, and other characteristics.

Three questions, numbers 7, 8 and 9, on the 1980 census collected information on school enrollment and educational attainment. Data were also collected on literacy in question 17, and vocational training in questions 20a and 20b.

SCHOOL ENROLLMENT

The data on school enrollment were derived from answers to questions 7 and 8. Persons were classified as enrolled in school if they reported attending a "regular" school or college at any time between February 1, 1980 and the time of enumeration. Regular schooling was defined as pre-kindergarten, kindergarten, elementary school, and schooling which led to a high school diploma or college degree. Schooling in trade or business schools, company training, or schooling obtained through a tutor was to be reported only if the course credits obtained were regarded as transferable to a regular elementary school, high school, or college. Children were included as enrolled in pre-kindergarten only if the school included instruction as an important and integral phase of its program. Children enrolled in "Head Start" programs, or similar programs sponsored by local agencies to provide pre-primary education to young children, were included as enrolled in school. Persons who had been enrolled in a regular school since February 1, 1980, but who had not actually attended, for example, because of illness, were counted as enrolled in school. Schooling which was generally regarded as not "regular" included that given in a pre-kindergarten which simply provided custodial day care; in specialized vocational, trade, or, business schools; in on-the-job training; and through correspondence courses.

Public, Church-Related, or Other Private School. Persons who were enrolled in school were also classified as attending a public, church-related, or other private school. In general, a "public school" was defined as any school which was controlled and supported primarily by a government agency. A "church-related" school was defined as a private school which was controlled or supported primarily by a religious organization. An "other private" school was defined as a school controlled primarily by private groups other than religious organizations.

Level and Year of School in Which Enrolled. Persons who were enrolled in school were classified according to the level and year of school in which they were enrolled, as reported in question 8. The levels separately identified in this report are pre-kindergarten, kindergarten, elementary school, high school, and college. Children in "Head Start" or similar programs were counted under "Pre-kindergarten" or "Kindergarten" as appropriate. Elementary school, as defined here, includes grades 1 to 8, and high school includes grades 9 to 12. Persons attending junior high school were reported in elementary school or high school according to their grade. The term "college" included junior or community college, 4-year colleges, universities, and graduate or professional schools.

Comparability with Earlier Census Data. School enrollment questions in some form have been included in the census since 1930; grade attended was added in 1950. The wording of the type of school question was changed from parochial in 1970 to church-related in 1980 in an attempt to make the affiliation with a religious group clearer to respondents. The intention was to include all schools controlled by religious groups rather than only particular denominations or religions.

In 1940, the question on schooling referred to the period since the preceding March 1. In 1950, the reference period was changed to that between February 1 and the time of enumeration. The same reference period was used in 1960, 1970, and 1980.

The age range for which enrollment data have been obtained varied for the several censuses. Information on enrollment was recorded for persons 5 to 24 years old in 1940 and 1950, for those 5 to 34 years old in 1960, and for those 3 years old and over in 1970 and 1980. Most of the published enrollment figures related to ages 5 to 24 in 1940 and in 1950, 5 to 34 in 1960, 3 to 34 in 1970, and 3 years and over in 1980. The extended coverage for the published enrollment data in the recent censuses reflects increased interest in the number of persons who were attending regular colleges and universities at older ages.

In the 1950 census, grade of enrollment was available for the first time; grade or year could be identified for elementary school through college. In 1960, kindergarten was separately identified and included with the regular enrollment figures. In 1970, nursery school enrollment was added to the levels of school separately identified. In 1980, "nursery school" was replaced by "pre-kindergarten."

YEARS OF SCHOOL COMPLETED

The data on years of school completed were derived from answers to questions 8 and 9. These questions on educational attainment applied only to progress in "regular" schools as defined under the definition for school enrollment. The first question called for the highest grade attended, regardless of "skipped" or

"repeated" grades. Persons whose education was received in foreign school systems or an ungraded school were expected to report the approximate grade in the regular school system. An instruction printed on the form, "If high school was finished by equivalency test (GED), mark '12'" (meaning grade 12), was to ensure that persons who dropped out of school before high school graduation but later earned a diploma with an equivalency test would be counted as high school graduates. Those diploma recipients who also attended college would be credited with college attendance as reported.

The second question on educational attainment asked whether or not the highest grade attended had been finished. It was to be answered "Finished," if the person had successfully completed the entire grade or year indicated in question 8. If the person had completed only part of the year, had dropped out, or failed to pass the last grade attended, the question was to be answered "Did not finish." If the person was still attending school in that grade, he or she answered "Now attending." The number in each category of highest grade of school completed represented the combination of (a) persons who reported the indicated grade as the highest grade attended and that they had finished it, (b) those who had attended the next higher grade but had not finished it, and (c) those still attending the next higher grade. Persons who had not completed the first year of elementary school were classified as having no years of school completed.

"Percent high school graduates" included persons who completed four years of high school by graduation or an equivalency test and persons who reported that they had attended some level of college.

Comparability with Earlier Census Data. Educational attainment questions in terms of years of school completed have been included on the census of Guam since 1950. In 1950, a single question was asked on highest grade of school completed. Since 1960 two questions have been used.

The 1980 instruction for persons who received a high school diploma by virtue of passing an equivalency test was not included on past census questionnaires. Persons who took equivalency tests may or may not have been reported as high school graduates in earlier censuses; however, completing high school by such means was not as common in earlier decades as it was in the decade prior to the 1980 census.

ABILITY TO READ AND WRITE

The data on ability to read and write were derived from answers to question 17. This question was asked of persons 5 years old and over. Ability to read and write was not limited to any particular language. Consequently, the category "Able to read and write," included persons who were able to read and write in English, Spanish, Chamorro, various languages used in the Philippines, etc. Persons who could only read and those who could write only their own names were classified as "Unable to read and write."

VOCATIONAL TRAINING

The data on vocational training were derived from answers to questions 20a and 20b, which were asked for the first time in the 1980 census. Persons were included in the tabulations only if they had completed the requirements for a vocational program at a trade school, business school, hospital or some other kind

of school for occupational training. Vocational training was defined as a school program designed to prepare a person for work in an occupational field. Thus, training which leads to certification to practice carpentry, electronics, nursing, or accounting was vocational, provided a baccalaureate degree was not granted for that training. Included as "vocational training" were formal vocational training programs received in high school, through an apprenticeship program, in a school of business, in a nursing school or trade school, in a technical institute, in the U.S. Armed Forces, in the Job Corps, and in a correspondence school. Excluded from "vocational training programs" were single courses which were not part of an organized program of study, on-the-job training, and basic training in the U.S. Armed Forces. Persons who had completed a vocational training program were asked to designate the kind of school where the training was received (e.g., business school, trade school, 2-year college, high school, training program at place of work, etc.).

SCHOOL ENROLLMENT CHARACTERISTICS

During this century, generally larger and larger proportions of the school-age population have been in school at each decennial census (Table 9.1).

Table 9.1 Percent of Persons Age 5 to 24 Years Enrolled in School: 1940 to 1980

	1980	1970	1960	1940
Total age 5 to 24.	71.4	64.8	61.9	47.9
5 to 13.....	96.9	88.4	82.7	68.5
14 to 17.....	95.2	91.2	89.2	47.4
18 to 24.....	21.9	16.2	17.6	5.6

Note: Data not available for 1950.
Source: U.S. Bureau of the Census Decennial Reports

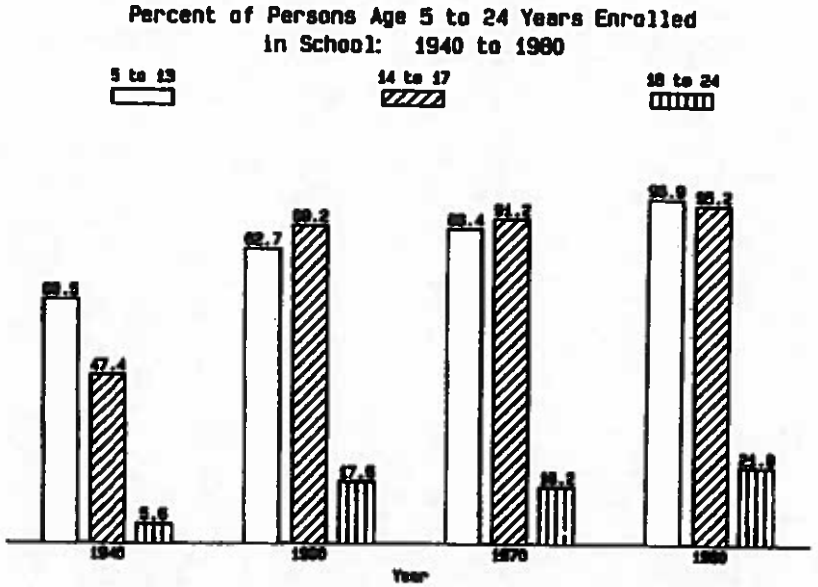
The post-war years in Guam have witnessed a substantial increase in the percentage of young people enrolled in school. Although only 48 percent of the population aged 5 to 24 in 1940 were enrolled at the time of the census, the percentage increased to 62 percent in 1960, 65 percent in 1970, and 71 percent in 1980.

In 1960, 83 percent of those in the appropriate age category were enrolled in elementary school, 89 percent in high school, and nearly 18 percent in college or university.

By 1970, the enrollment levels increased considerably for elementary school ages, increased to a lesser degree for the high school ages, and declined somewhat for the college ages. One explanation for the decline at the college level may be the high level of enlistment and participation in the Vietnam conflict in all segments of the population, both civilian and military personnel.

School enrollment at all levels increased further by 1980. Children were going to school in greater proportions than ever before, with 97 percent of elementary age children and 95 percent of high school aged children in school. The enrollment rate for persons aged 18 to 24 increased to 22 percent.

Figure 9.1 Percent School Enrollment by Age: 1940 to 1980



Kindergarten level (5 to 6 years) showed an increase in enrollment of 28 percent from 1970 to 1980. Enrollment rates for those in the compulsory attendance ages (6 to 16 years) also increased, from 6 percent in 1970 to 9 percent in 1980.

Table 9.2. Percent School Enrollment by Age: 1930 to 1980

Age Group	1980	1970	1960	1950	1940	1930
5 and 6.....	89.2	62.2	42.8	12.5	1.3	7.1
7 to 13.....	99.2	96.5	96.1	98.0	91.8	96.3
14 and 15.....	98.8	94.9	95.5	95.4	60.3	63.6
16 and 17.....	91.5	86.9	81.4	69.8	32.4	24.2
18 and 19.....	43.7	44.6	35.3	0.0	11.5	4.4

Source: U.S. Bureau of the Census Decennial Reports

The changing pattern of school enrollment has been affected by the varying proportion of young adults in the military. Data for 1980 showed a marked difference in enrollment rates between the civilian and military populations (Table 9.3). The civilian enrollment rate for persons aged 5 to 24 years was nearly 80 percent compared to 71 percent island-wide, while it was only 43 percent for military persons. Males were enrolled at a slightly higher rate than females in the civilian population, but at a lower rate in the military population. Although data are not available, it is probable that enrollment rates for persons 5 to 19 years of age were very similar in both the military and civilian

populations and that the determining factor in the overall lower enrollment rates for the military in 1980 was the 18 to 24 year age group. That age group contained many active duty personnel employed full-time with the military, plus their spouses, who may not have pursued a higher education.

Table 9.3 Percent of Persons 5 to 24 Years Enrolled in School by Sex and Civilian-Military/ Dependent Status: 1980

Status	Total	Male	Female
Total 5 to 24 yrs.....	46071	24161	21910
Total enrolled in school	32885	16939	15946
Percent enrolled.....	71.4	70.1	72.8
Civilian 5 to 24 yrs.	35876	17976	17900
Total enrolled in school	28518	14695	13823
Percent enrolled.....	79.5	81.7	77.2
Military 5 to 24 yrs..	10195	6185	4010
Total enrolled in school	4367	2244	2123
Percent enrolled.....	42.8	36.3	52.9

Source: U.S. Bureau of the Census PC80-1-C/D54 1980 Tables 19 and 34; PC80-1-C/D54 1980 Civilian Tables 19 and 34.

School enrollment and labor force status in 1980 for persons 16 to 19 years of age is shown in Table 9.4. About 9 percent of all young adult persons in the civilian population had not yet completed high school. In the military population, the rate was less than 1 percent. Almost 60 percent of the non-completers in the civilian population considered themselves not in the labor force, and less than one-third of these individuals were employed. Without data by sex, it is impossible to know whether the employment rate for dropouts was significantly different between males and females. It is possible that a large proportion of non-completers were females who were not part of the labor force because of family responsibilities.

Table 9.4 School Enrollment and Labor Force Status for Persons 16 to 19 Years by Civilian-Military/Dependent Status: 1980

	Number			Percent		
	Total	Civ	Mil	Total	Civ	Mil
Persons 16 to 19.....	8759	7202	1557	100.0	82.2	17.8
Armed Forces Active Duty...	962	(X)	962	11.0	(X)	11.0
Civilian (not Armed Forces)	7797	7202	595	89.0	82.2	6.8
Enrolled in school.....	5862	5515	347	66.9	63.0	4.0
Not enrolled in school....	1935	1687	248	22.1	19.3	2.8
High school graduate....	1050	881	169	12.0	10.1	1.9
Employed.....	602	532	70	6.9	6.1	.8
Unemployed.....	67	50	17	.8	.6	.2
Not in labor force....	381	299	82	4.3	3.4	.9
Not high school graduate	885	806	79	10.1	9.2	.9
Employed.....	281	259	22	3.2	3.0	.3
Unemployed.....	82	71	11	.9	.8	.1
Not in labor force....	522	476	46	6.0	5.4	.5

Source: U.S. Bureau of the Census PC80-1-C/D54 1980 Table 39; PC80-1-C/D54 1980 Civilian Table 39.

Most of the non-completers in the civilian population (72 percent) were born on Guam, and had a dropout rate of 12 percent (Table 9.5). Persons born in the Philippines had a dropout rate of 9 percent, and persons born in the Commonwealth of the Northern Marianas had a dropout rate of 21 percent.

Table 9.5 School Enrollment and Labor Force Status by Place of Birth of Persons in the Civilian Community: 1980

School Enrollment and Labor Force Status	Place of Birth								
	Total	Guam	CNMI	Trust Terr.	Japan	Philip pines	Other Asia	U.S.	Else-where
Persons 16 to 19....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Enrolled in school....	76.6	75.5	67.1	89.5	79.5	78.7	87.1	78.1	75.2
Not enrolled in school	23.4	24.5	32.9	10.5	20.5	21.3	12.9	21.9	24.8
High school graduate	12.2	12.1	11.9	6.1	16.1	11.8	7.5	15.0	15.6
Employed.....	7.4	7.2	7.1	3.5	11.6	7.8	4.3	8.7	8.5
Unemployed.....	.7	.6	0.0	0.0	.9	1.0	0.0	1.4	0.0
Not in labr force	4.2	4.3	4.8	2.6	3.6	3.0	3.2	4.9	7.1
Not high school grad	11.2	12.3	21.0	4.4	4.5	9.4	5.4	6.9	9.2
Employed.....	3.6	3.6	4.3	.9	.9	5.2	2.2	2.5	2.1
Unemployed.....	1.0	1.2	1.9	0.0	0.0	.5	0.0	.6	0.0
Not in labr force	6.6	7.5	14.8	3.5	3.6	3.8	3.2	3.8	7.1

Note: Elsewhere includes unknown place of birth.
Source: U.S. Bureau of the Census PC80-1-C/D54 1980 Civilian Table 27.

English language ability may have some effect on the high school completion rate (Table 9.6). The non-completer rate was 6 percent for those who spoke only English at home, 13 percent if another language was also spoken in the home, and 18 percent when English was spoken less frequently.

Table 9.6. School Enrollment and Labor Force Status by Frequency of Speaking English in the Home in the Civilian Community For Persons 16 to 19: 1980

School Enrollment and Labor Force Status	Total	Speak Only Eng.	Speak Another Language			
			Total	Speak More Freq.	Speak Same Freq.	Speak Less Freq.
Persons 16 to 19.....	100.0	100.0	100.0	100.0	100.0	100.0
Enrolled in school.....	76.6	83.1	73.8	78.7	73.9	67.4
Not enrolled in school..	23.4	16.9	26.2	21.3	26.1	32.6
High school graduate	12.2	10.6	12.9	11.8	12.3	15.1
Employed.....	7.4	6.3	7.9	7.3	7.0	9.7
Unemployed.....	.7	.8	.7	.7	.7	.6
Not in labor force..	4.2	3.6	4.4	3.7	4.7	4.9
Not high school grad.	11.2	6.3	13.3	9.5	13.8	17.4
Employed.....	3.6	1.9	4.3	2.9	4.2	6.2
Unemployed.....	1.0	.7	1.1	.9	1.1	1.4
Not in labor force..	6.6	3.7	7.8	5.6	8.4	9.8

Note: "Less Freq." includes those who do not speak English.
Source: U.S. Bureau of the Census PC80-1-C/D54 1980 Civilian Table 32.

School enrollment for persons 5 to 6 years old increased by 27 percentage points at the kindergarten level between 1970 and 1980; this was 8 percentage points more than the 1960 to 1970 change in school enrollment for children of the same ages (Table 9.7). In the 18 and 19 year old category, there was a 9 percentage point decrease in school enrollment between 1970 to 1980 for those continuing their school to a higher level.

Table 9.7. School Enrollment for Persons 5 to 19 Years: 1960 to 1980

Age Group	Total Population			In School			Percent in School		
	1980	1970	1960	1980	1970	1960	1980	1970	1960
Total	34963	30115	21412	31402	25424	16701	89.8	84.4	78.0
5 and 6 years	4986	4749	3826	4447	2955	1639	89.2	62.2	42.8
7 to 13 years	16735	15392	11368	16596	14851	10927	99.2	96.5	96.1
14 and 15 years	4483	3672	1996	4429	3485	1907	98.8	94.9	95.5
16 and 17 years	4398	3126	1601	4024	2717	1303	91.5	86.9	81.4
18 and 19 years	4361	3176	2621	1906	1416	925	43.7	44.6	35.3

Source: U.S. Bureau of the Census PC80-1-C/D54 1980 Table 34; PC80-1-B54 1980 Table 16; PC(1)-B54 1970 Tables 5 and 10; General Population Characteristics 1960 Table 7.

About 59 percent of civilian-military/dependent males 25 to 29 years old were enrolled in an institute of higher education (Table 9.8). This high enrollment indicates that the civilians at these ages were attending school under the G.I. Bill, or seeking higher level positions in the job market, or, for the military, to be earning credits that could be used to move to a higher rank.

Fully 57 percent of the 46 enrollees 55 to 64 years of age were female. Females also dominated in the age groups 40 to 54 and 65 and older. There could be several contributing factors to why there were more women in those age groups enrolled in school than there were men: these women could have been mothers that have reared their children and then decided to go to college, and some, perhaps, were divorced women who decided to start a career.

Table 9.8. Percent School Enrollment for Persons 3 Years Old and Over by Age, Sex, and Civilian-Military/Dependent Status: 1980

Age	Total		Total		Civilian		Military	
	Total	Percent	Males	Fmles	Males	Fmles	Males	Fmles
Total in school.	36002	100.0	18598	17404	15815	14962	2783	2442
Percent.....	100.0	100.0	51.7	48.3	43.9	41.6	7.7	6.8
3 Years.....	208	100.0	52.4	47.6	33.7	27.9	18.8	19.7
4 Years.....	685	100.0	50.1	49.9	36.1	37.2	14.0	12.7
5 Years.....	2042	100.0	52.1	47.9	40.9	36.8	11.1	11.2
6 Years.....	2405	100.0	50.4	49.6	41.7	39.6	8.7	10.1
7 Years.....	2626	100.0	50.3	49.7	42.1	40.0	8.1	9.7
8 Years.....	2480	100.0	51.6	48.4	43.0	41.0	8.6	7.5
9 Years.....	2462	100.0	52.0	48.0	43.8	39.8	8.2	8.2
10 Years.....	2357	100.0	51.4	48.6	43.7	41.1	7.7	7.5
11 years.....	2183	100.0	51.9	48.1	45.9	41.9	6.0	6.2
12 Years.....	2286	100.0	51.0	49.0	45.5	42.8	5.6	6.1
13 Years.....	2202	100.0	52.2	47.8	47.1	42.9	5.1	4.9
14 Years.....	2229	100.0	51.0	49.0	46.4	44.6	4.6	4.4
15 years.....	2200	100.0	50.0	50.0	45.6	46.0	4.5	4.0
16 Years.....	2111	100.0	52.1	47.9	48.4	44.9	3.7	3.0
17 Years.....	1913	100.0	52.4	47.6	48.9	44.5	3.5	3.1
18 Years.....	1242	100.0	55.2	44.8	50.3	41.0	4.9	2.9
19 Years.....	664	100.0	52.3	47.7	47.1	45.5	5.1	2.3
20 Years.....	420	100.0	45.0	55.0	38.1	52.4	6.9	2.6
21 years.....	328	100.0	46.6	53.4	35.4	49.1	11.3	4.3
22 Years.....	273	100.0	54.2	45.8	38.5	37.7	15.8	8.1
23 Years.....	246	100.0	57.7	42.3	39.8	35.4	17.9	6.9
24 Years.....	216	100.0	55.1	44.9	39.4	31.9	15.7	13.0
25 to 29 Years.....	856	100.0	58.8	41.2	38.6	31.8	20.2	9.5
30 to 34 Years.....	601	100.0	54.4	45.6	32.3	34.6	22.1	11.0
35 to 39 Years.....	318	100.0	50.3	49.7	28.9	41.2	21.4	8.5
40 to 44 Years.....	199	100.0	49.7	50.3	38.2	44.7	11.6	5.5
45 to 54 Years.....	190	100.0	48.4	51.6	44.7	48.4	3.7	3.2
55 to 64 Years.....	46	100.0	43.5	56.5	43.5	56.5	0.0	0.0
65 Years and Over.....	14	100.0	42.9	57.1	42.9	57.1	0.0	0.0

Source: U.S. Bureau of the Census PC80-1-C/D54 1980, Table 34; PC80-1-C/D54 1980 Civilian, Table 34.

YEARS OF SCHOOL COMPLETED

The population of Guam underwent a marked increase in the level of educational attainment in the years since 1940, as shown in Table 9.9. The proportion of adults who finished high school rose from 5 percent in 1940 to 66 percent in 1980. At the same time, the proportion of persons completing less than 5 years of elementary education fell from 56 percent in 1940 to 8 percent in 1980. This dramatic increase in educational attainment was no doubt caused by compulsory education for all persons up to 16 years, which began on Guam in 1950. The proportion completing college increased from 1 percent in 1940 to 18 percent in

1980, probably the result of the opening of the Guam college in 1961 (which later became the University of Guam), which made a higher education available locally.

Table 9.9. Educational Attainment for Persons Age 25 and Over: 1940 to 1980

Educational Attainment	1980	1970	1960	1950	1940
Total	100.0	100.0	100.0	100.0	100.0
Less than 5 years of elementary school	8.2	14.2	20.4	29.7	55.6
Between 5 and 11 years	26.2	36.3	41.9	38.4	39.6
High school (12 or more years)	65.6	49.5	37.7	31.9	4.8
College (16 or more years)	17.5	10.6	6.3	4.7	1.0
Median years completed	12.5	11.9	9.7	8.4	4.7

Note: For 1960, persons whose years of school completed was not reported are excluded.
Source: U.S. Bureau of the Census Decennial Reports.

The increase in the proportion of adults with high school diplomas was partially influenced by a significantly higher level of educational attainment in the military community. High school diplomas or GED certificates are now required for enlistment in the new, all volunteer armed service (Table 9.10). This was reflected in the 94 percent of military males and 80 percent of military females aged 25 and over who had high school diplomas. Approximately 80 percent of all adults had a high school diploma in 1980; this figure was slightly higher for males and slightly lower for females.

Table 9.10. Educational Attainment for Persons Age 25 and Over by Sex and Civilian-Military/Dependent Status: 1980

Educational Attainment	Number			Percent		
	Total	Male	Fmle	Total	Male	Fmle
Total, 25 yrs. and over...	46906	24540	22366	100.0	100.0	100.0
Less than 5 yrs.....	3831	1493	2338	8.2	6.1	10.5
Between 5 and 11 yrs.....	12299	6046	6253	26.2	24.6	28.0
High school (12 yrs.+).....	30776	17001	13775	65.6	69.3	61.6
College (16 yrs. +).....	8232	4510	3722	17.5	18.4	16.6
Civilian 25 yrs and over..	37575	19063	18512	100.0	100.0	100.0
Less than 5 yrs.....	3627	1446	2181	9.7	7.6	11.8
Between 5 and 11 yrs.....	11398	5754	5644	30.3	30.2	30.5
High school (12 yrs.+).....	22550	11863	10687	60.0	62.2	57.7
College (16 yrs. +).....	6600	3552	3048	17.6	18.6	16.5
Military 25 yrs and over..	9331	5477	3854	100.0	100.0	100.0
Less than 5 yrs.....	204	47	157	2.2	.9	4.1
Between 5 and 11 yrs.....	901	292	609	9.7	5.3	15.8
High school (12 yrs.+).....	8226	5138	3088	88.2	93.8	80.1
College (16 yrs. +)	1632	958	674	17.5	17.5	17.5

Source: U.S. Bureau of the Census PC80-1-C/D54 1980 Table 22; PC80-1-C/D54 1980 Civilian Table 22.

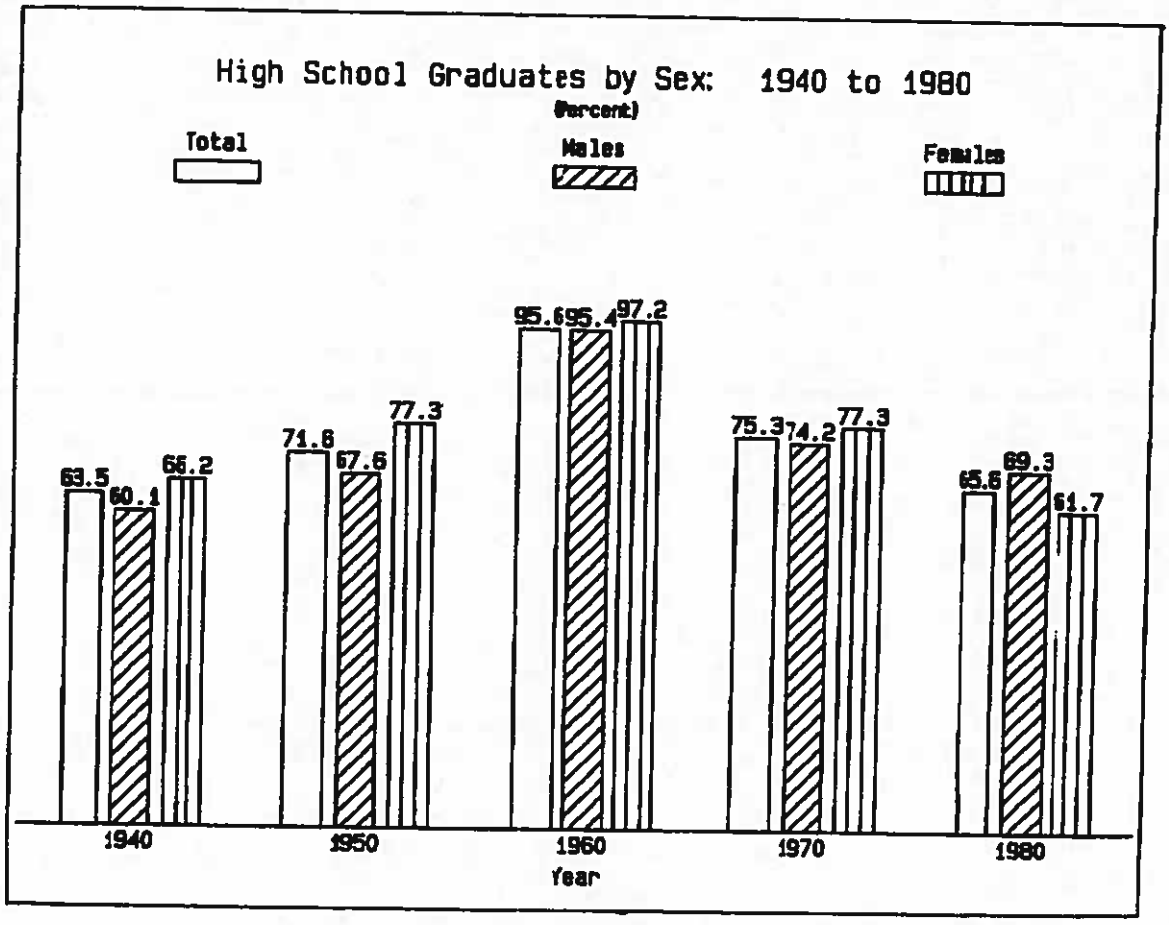
There was a decrease of 4.1 percentage points in the proportion of the population finishing 4 years of college between 1970 and 1980 (Table 9.11). This does not necessarily represent a significant decrease in attainment; a contributing factor in this case could be that most college students who began their education on Guam transferred and attended other universities or colleges off-island. A "High School and Beyond" survey conducted in school year 1986-87 by the Division of Research, Planning and Evaluation of the Guam Department of Education indicated that 60 percent of high school seniors graduating that year planned to enroll and attend college off-island.

Table 9.11. Educational Attainment: 1940 to 1980

School Attainment		1980	1970	1960	1950	1940
Persons 25 yrs & over.		100.0	100.0	100.0	100.0	100.0
No school.....		100.0	100.0	100.0	100.0	100.0
Elementary:	1 to 6 years..	98.4	99.5	100.0	99.5	99.2
	7 and 8 years.	84.8	91.8	99.5	90.3	89.9
High school:	1 to 3 years..	78.7	87.1	99.2	84.8	84.2
	4 years.....	65.6	75.3	95.6	71.6	63.5
College:	1 to 3 years..	34.4	41.3	49.1	40.2	28.9
	4 years.....	17.6	21.7	18.0	22.9	13.3
	5 or more year	6.4	8.2	8.1	8.5	2.9

Source: U.S. Bureau of the Census Decennial Reports.

Figure 9.2 High School Graduates by Sex: 1940 to 1980
(Cumulative Percent)



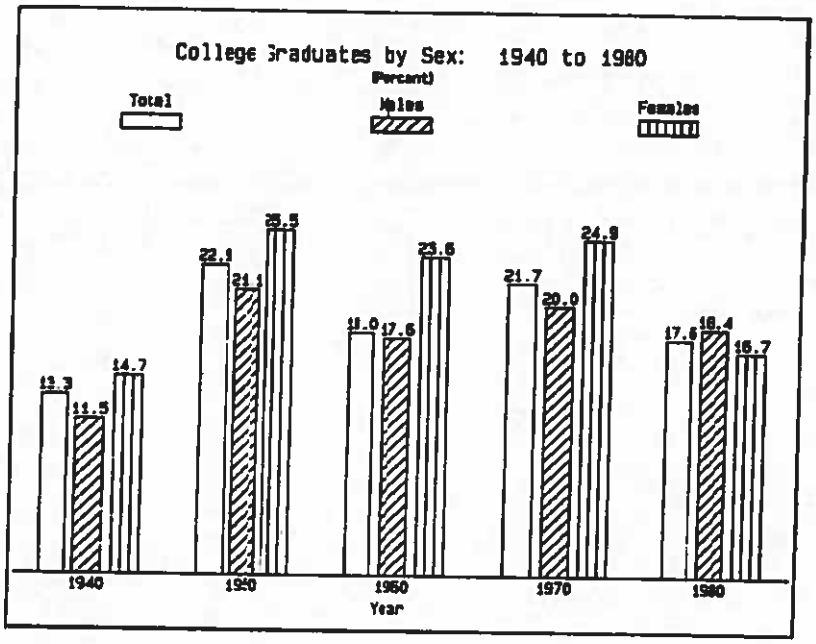
The proportion of males completing 4 years of high school ranged between 60 percent in 1940 to 95 percent in 1960 (Table 9.12). Only 3 percent of males had completed 5 or more years of college in 1940; this proportion increased to 8 percent in 1960, then slowly decreased to 7 percent in 1980.

Table 9.12. Educational Attainment: Males, 1940 to 1980

Educational Attainment	1980	1970	1960	1950	1940
Males 25 yrs & over...	100.0	100.0	100.0	100.0	100.0
No school.....	100.0	100.0	100.0	100.0	100.0
Elementary: 1 to 6 years..	99.0	99.2	99.8	99.3	99.6
7 and 8 years.	88.0	91.8	99.3	89.4	87.5
High school: 1 to 3 years..	82.1	86.8	99.0	82.9	81.7
4 years.....	69.3	74.2	95.4	67.6	60.1
College: 1 to 3 years..	37.6	40.4	48.7	38.1	27.0
4 years.....	18.4	20.0	17.6	21.1	11.5
5 or more year	7.4	8.0	8.2	8.1	3.1

Source: U.S. Bureau of the Census Decennial Reports.

Figure 9.3 College Graduates by Sex: 1940 to 1980
(Cumulative Percent)



In general, women's level of attainment was lower than that of men (Table 9.13). More females continued their education at the secondary level through high school, but males generally had a higher level of attainment toward a degree in college. High school, college, and post-secondary completion rates for females also decreased between 1970 and 1980.

Table 9.13. Educational Attainment: Females, 1940 to 1980

Educational Attainment		1980	1970	1960	1950	1940
Females 25 yrs & over..		100.0	100.0	100.0	100.0	100.0
No school.....		100.0	100.0	100.0	100.0	100.0
Elementary:	1 to 6 years..	98.0	99.4	99.9	99.5	98.9
	7 and 8 years.	81.5	91.7	99.3	91.6	91.9
High school:	1 to 3 years..	75.1	87.7	99.3	87.5	86.3
	4 years.....	61.7	77.3	97.2	77.3	66.2
College:	1 to 3 years..	30.9	42.8	54.0	43.1	30.4
	4 years.....	16.7	24.9	23.6	25.5	14.7
	5 or more year	5.3	8.6	6.2	9.0	2.8

Source: U.S. Bureau of the Census Decennial Reports

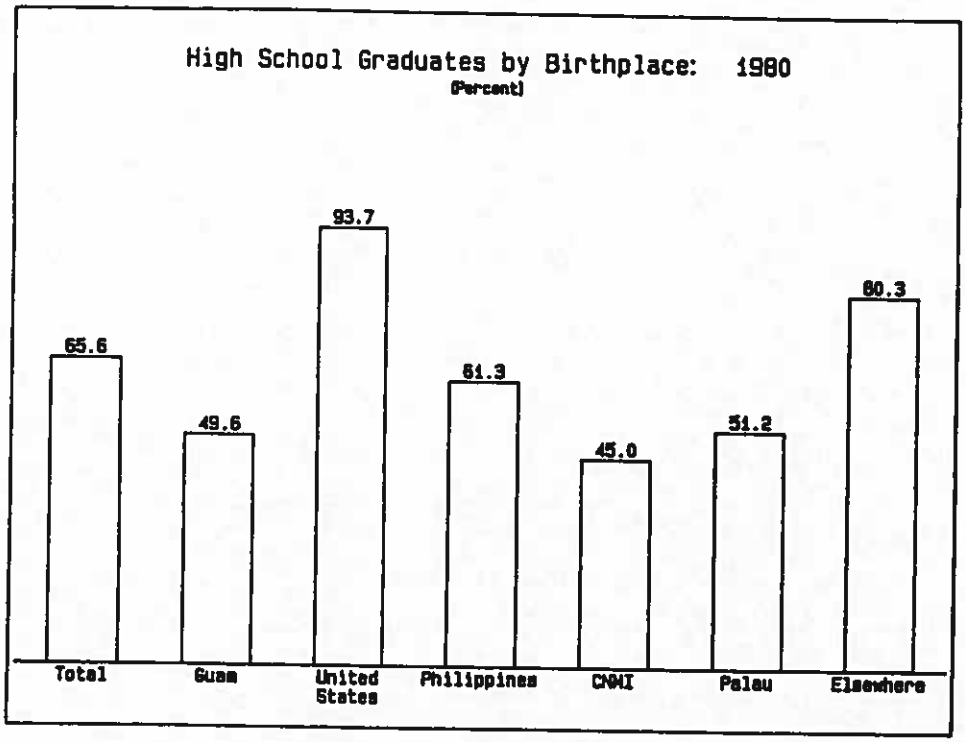
In 1980, 66 percent of the population 25 years and over had completed 4 years of high school, as had 69 percent of males 25 and over and 62 percent of females. Of those born on Guam, 50 percent had finished 4 years of high school (52 percent of males and 48 percent of females), while this was true of 61 percent of those born in the Philippines (60 percent of males and 62 percent of females). Only 6 percent of the adult population had completed more than 5 years of college (7 percent of males and 5 percent of females), compared to 2 percent of those born on Guam and 14 percent of those born in the U.S.

Table 9.14. Educational Attainment by Birthplace: 1980

School Attainment		Total	Guam	USA	Asia				Else-where
					Total	Phil.	CNMI	Palau	
Persons 25 yrs & over.		46906	16972	10562	15488	12111	963	580	2349
No school.....		100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Elementary:	1 to 6 years..	98.5	97.5	99.9	98.6	98.9	96.8	97.8	99.1
	7 and 8 years.	84.9	77.4	99.1	83.3	81.8	74.5	75.9	92.0
High school:	1 to 3 years..	78.7	68.6	98.2	76.4	74.3	63.7	70.5	88.2
	4 years.....	65.6	49.6	93.7	63.6	61.3	45.0	51.2	80.3
College:	1 to 3 years..	34.4	16.2	54.2	40.5	42.3	16.1	21.9	46.7
	4 years.....	17.5	6.7	28.1	23.3	24.1	4.4	4.8	19.4
	5 or more yrs.	6.3	2.4	14.1	5.6	6.0	1.9	1.0	8.0

Source: U.S. Bureau of the Census PC80-1-C/D54, 1980 Table 27.

Figure 9.4 High School Graduates by Birthplace: 1980
(Percent)



Males born in the United States had higher proportions who had completed 5 or more years of college, followed by those born Elsewhere (Table 9.15). Males born in Palau had the lowest proportions of their population who had completed 5 or more years of college.

Table 9.15. Educational Attainment by Birthplace: Males, 1980

School Attainment	Total	Guam	USA	Asia				Elsewhere
				Total	Phil.	CNMI	Palau	
Males 25 years and ove	24803	7762	6584	8045	6703	434	247	1468
No school.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.1
Elementary: 1 to 6 years..	99.0	98.1	99.9	99.0	99.1	97.9	99.2	99.5
7 and 8 years.	88.1	81.0	99.2	85.1	83.6	79.0	82.2	95.0
High school: 1 to 3 years..	82.3	72.0	98.3	77.8	75.4	68.9	77.3	91.7
4 years.....	69.6	51.8	94.9	63.6	60.3	49.3	61.1	84.8
College: 1 to 3 years..	38.3	18.0	55.1	40.6	38.9	21.4	29.1	52.4
4 years.....	19.2	6.9	28.7	21.8	19.2	6.0	4.9	20.2
5 or more year	8.3	2.6	15.3	5.5	5.1	2.3	1.2	9.4

Source: U.S. Bureau of the Census PC80-1-C/D54, 1980 Table 27.

While 6 percent overall and 7 percent of males had completed 5 or more years of college, only 5 percent of females had done so (Table 9.16). Females had higher proportions who had no school (2 percent) than did males (1 percent). Females born in the CNMI had the highest percentages with no school (over 4 percent), while those born in the U.S. had the lowest (0 percent).

Table 9.16. Educational Attainment by Birthplace: Females 1980

School Attainment		Total	Guam	USA	Asia		CNMI	Palau	Elsewhere
					Total	Phil.			
Females 25 yrs and over		22103	9210	3978	7435	5408	529	333	881
No school		100.0	100.0	100.0	100.0	100.0	100.0	100.0	99.8
Elementary:	1 to 6 years..	97.9	96.9	100.0	98.2	98.6	95.8	96.7	98.4
	7 and 8 yrs...	81.2	74.3	99.1	81.4	79.5	70.7	71.2	87.1
High school:	1 to 3 yrs....	74.7	65.7	98.0	75.0	72.9	59.4	65.5	82.3
	4 years.....	61.1	47.8	91.7	63.5	62.6	41.4	43.8	72.9
College:	1 to 3 years..	30.0	14.7	52.7	40.4	46.5	11.7	16.5	37.2
	4 years.....	15.6	6.5	27.2	24.9	30.3	3.0	4.8	18.0
	5 or more yrs.	4.1	2.2	12.2	5.8	7.2	1.5	.9	5.7

Source: U.S. Bureau of the Census PC80-1-C/D54, 1980 Table 27.

While 66 percent of the population 25 years and older were high school graduates, over 75 percent of those in the labor force and 96 percent of those in the military had completed high school (Table 9.17). Females generally had higher proportions of their population who had finished high school; the exceptions were those in the civilian labor force, both employed and unemployed. The employed females in the civilian labor force had a higher proportion of college graduates (77 percent) than had the employed males (18 percent).

Table 9.17 Labor Force Participation by Educational Attainment: 1980

Educational Attainment	Total	In Labor Force	Military	Civilian LF		Not In Labor Force
				Employ	Unemploy	
Persons 25 yrs. and over...	46906	32779	5554	26347	878	14127
Percent High School Graduates.	65.5	75.3	95.5	71.5	63.6	43.0
Percent College Graduates.....	17.5	21.7	18.0	22.9	13.4	7.7
Males 25 yrs. and over...	24540	21448	5232	15835	381	3092
Percent High School Graduates.	69.2	74.2	95.4	95.4	67.6	7.1
Percent College Graduates.....	18.3	20.0	17.6	17.6	21.1	2.4
Females 25 yrs. and over...	22366	11331	322	10512	497	11035
Percent High School Graduates.	61.6	77.4	97.2	77.3	66.2	45.4
Percent College Graduates.....	16.6	24.9	23.6	25.5	14.7	8.0

Source: U.S. Bureau of the Census PC80-1-C/D54, 1980 Table 39.

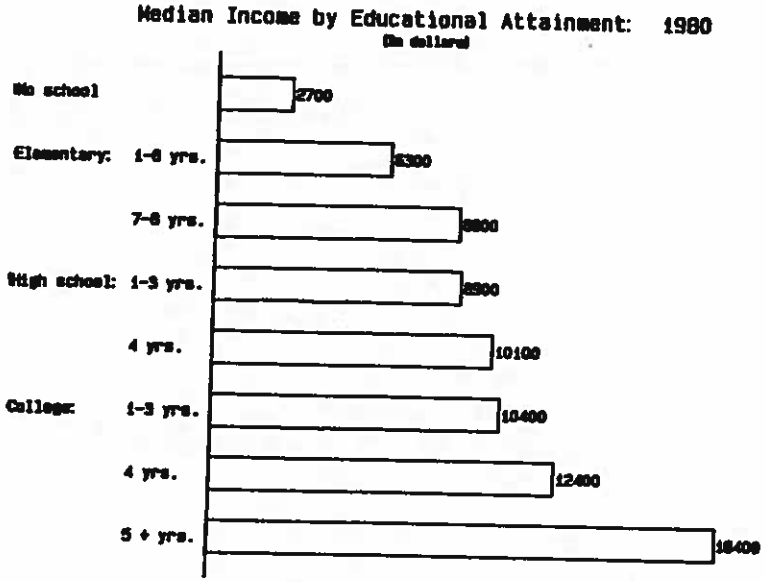
Table 9.18 shows median and mean income by educational attainment. There was a direct correlation between education and income, that is, the more educated the person was in 1980, the more income he or she obtained. Of the college graduates (4 year degree), 21 percent made more than $25,000 per year, although 9 percent made $7,000 or less. Of those with 1 to 3 years of college, 20 percent earned more than $25,000, and 18 percent had income between $15,000 and $25,000.

Table 9.18 Educational Attainment by Income: 1980

School Attainment		Total (incl. w/o income)	Persons with income (Dollars) Tot	<7K	7K-10K	10K-15K	15K-25K	25K+	Median	Mean
Persons 25 yrs & over		46906	37618	11097	7350	9352	7379	2440	10149	11700
Percent		100.0	100.0	100.0	100.	100.	100.	100.	...	...
No school		1.5	1.2	3.2	.6	.5	.2	.1	2712	4491
Elementary:	1 to 6 years.	13.6	11.4	21.0	10.4	7.3	6.1	2.6	6279	8024
	7 and 8 yrs..	6.2	5.5	7.0	5.6	4.8	4.5	2.7	8770	10223
High school:	1 to 3 yrs...	13.1	12.1	15.2	12.5	12.1	9.1	5.4	8910	10130
	4 years.....	31.2	31.9	26.7	39.1	37.3	28.3	23.3	10124	11283
College:	1 to 3 years.	16.8	18.3	15.0	20.7	20.6	17.6	19.8	10417	12772
	4 years.....	11.2	12.3	8.7	8.5	12.8	17.7	21.4	12441	14330
	5 or more yrs	6.4	7.5	3.3	2.6	4.6	16.2	24.8	18392	19144

Source: U.S. Bureau of the Census PC80-1-C/D54, Table 49.

Figure 9.5 Median Income by Educational Attainment: 1980



ABILITY TO READ AND WRITE

Fully 99 percent of those 10 to 17 years old in the South could read and write in 1980, as could 95 percent of those in the North and 93 percent in the Central region (Table 9.19). Of those 18 years and older in 1980, 97 percent of those in the North could read and write, 97 percent of those in the South, and 96 percent of those in the Central region.

Table 9.19. Persons 10 years and Over by Ability to Read and Write By Region: 1980

Age Group	Region			
	Total	North	Central	South
Persons 10 yrs +...	80345	36111	26799	17435
Prcnt Able read/write..	96.2	96.5	94.6	97.1
10 to 17 years.....	17970	7769	5908	4293
Prcnt Able read/write..	95.0	94.6	93.1	98.6
18 yrs. and over.....	62375	28342	20891	13142
Prcnt Able read/write..	96.6	97.0	95.0	96.6

SOURCE: U.S. Bureau of the Census STF 3A Table 161.

VOCATIONAL TRAINING

While 69 percent of those 16 to 64 years were in the labor force, the proportion was higher (87 percent) for those who had completed the requirements of a vocational training program (Table 9.20). The highest labor force participation rate was for those who were in a training program at their place of work (92 percent), followed by those whose school was not reported (90 percent).

Table 9.20. Vocational Training by Labor Force Participation: 1980

Vocational Training	In Labor Force			Civilian LF			
	Total	Nmbr	Perc.	Mili-tary	Empl-oy	Unem-ploy	Perc. Unem-ploy
Persons 16 to 64 yrs.....	63788	43951	68.9	10121	32175	1655	4.9
Completed Requirements.....	16657	14444	86.7	5587	8448	409	4.6
Type of School:							
Business, trade, 2-yr coll..	4863	3885	79.9	452	3264	169	4.9
High School Voc. Prgm.....	1721	1375	79.9	340	967	68	6.6
Training prgm at place of wk	6107	5637	92.3	2673	2856	108	3.6
Other school.....	2082	1846	88.7	1101	707	38	5.1
School not reported.....	1884	1701	90.3	1021	654	26	3.8

Source: U.S. Bureau of the Census PC80-1-C/D54 Table 39.

Over 55 percent of those 16 to 64 years old who were in the military in 1980 had completed the requirements of a vocational training program (Table 9.21).

Only about 25 percent of those who were in the civilian labor force and unemployed in 1980 had finished a training program. The most common type of program completed was a training program at a place of work, except for those in the civilian labor force: both those employed (39 percent) and unemployed (41 percent) in 1980 had attended a business, trade, or 2-year college for their training.

Table 9.21. Type of Vocational Training by Labor Force Participation: 1980

Type of Vocational Training	Total	In Labor Force	Civilian LF		
			Mili-tary	Empl-oy	Unem-ploy
Persons 16 to 64 yrs.....	63788	43951	10121	32175	1655
Completed Requirements.....	26.1	32.9	55.2	26.3	24.7
Type of School.....	100.00	100.00	100.00	100.00	100.00
Business, trade, 2-yr coll..	29.19	26.90	8.09	38.64	41.32
High School Voc. Prgm.....	10.33	9.52	6.09	11.45	16.63
Training prgm at place of wk	36.66	39.03	47.84	33.81	26.41
Other school.....	12.50	12.78	19.71	8.37	9.29
School not reported.....	11.31	11.78	18.27	7.74	6.36

Source: U.S. Bureau of the Census PC80-1-C/D54 Table 39.

In 1980, among males 16 to 64 years of age, 34 percent had had vocational training (Table 9.22). In the North, 33 percent of males had had such training, as had 32 percent in the Central region, and 40 percent of males 16 to 64 years of age in the South.

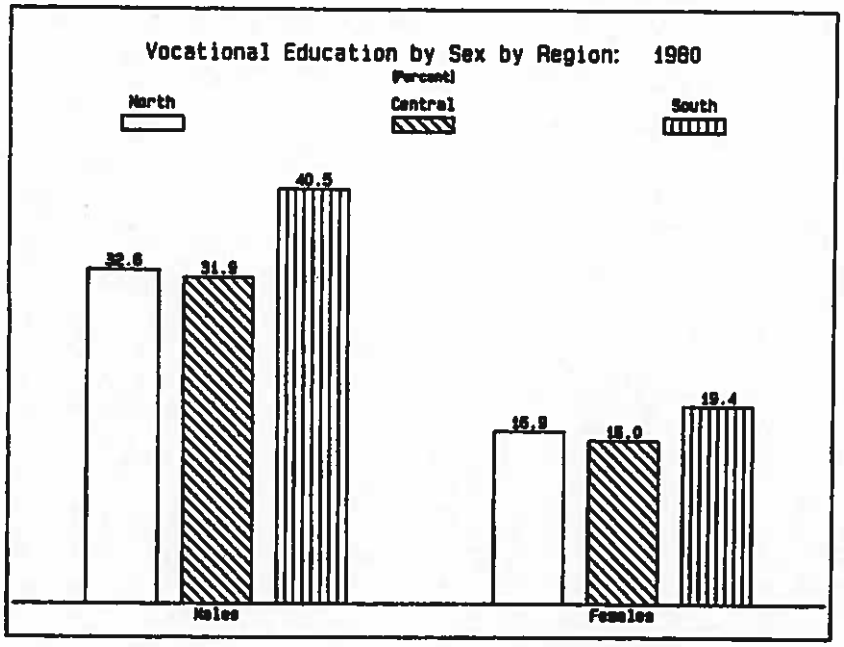
Table 9.22. Persons 16 to 64 Years by Age by Vocational Training By Region: 1980

Persons	Number				Percent			
	Total	North	Cntrl	South	Total	North	Cntrl	South
Males 16 to 64 years..	11527	4943	3718	2866	34.0	32.6	31.9	40.5
16 to 17 years.....	119	38	34	47	5.2	3.9	4.3	8.9
18 to 24 years.....	3377	1344	1194	839	39.9	40.5	36.2	45.4
25 to 64 years.....	8031	3561	2490	1980	34.7	32.8	33.0	42.0
Females 16 to 64 years	5130	2343	1545	1242	17.2	16.9	16.0	19.4
16 to 17 years.....	87	40	17	30	4.1	4.4	2.3	6.5
18 to 24 years.....	1463	650	472	341	20.9	20.4	19.9	23.5
25 to 64 years.....	3580	1653	1056	871	17.2	16.9	16.2	19.5

SOURCE: U.S. Bureau of the Census Summary Tape File 3A 1980 Table 161.

Table 9.22 also shows females 16 to 64 years of age who reported having hac vocational training. Only 17 percent of females overall had such training, with

Figure 9.6 Vocational Training by Sex by Region: 1980
(Percent)



those residing in the South having the highest proportion at 19 percent, the North region second at 17 percent, and the Central region having the lowest proportion at 16 percent. Women 18 to 24 years generally had higher proportions of their populations reporting having had vocational training than women of any other age.

SUMMARY

The 1980 census shows that both school enrollment and educational attainment have increased dramatically since 1940 for the Guam population. Increases have been somewhat moderated due to the relatively large military population on Guam. The military population contains active duty personnel as well as spouses who may not have a desire to pursue further education. Differential high school completion was also noted between the civilian and military 16 to 19 year old population. Some evidence was presented that the child's home language affected high school completion rates. Those speaking only English at home had a lower dropout rate than those speaking English and other languages.

In this chapter we have seen the increase in the number of women obtaining college educations, which correlated with professional levels of employment. As could be anticipated, those having more academic education were those more likely to be employed, and obtaining a higher income.

CHAPTER 10
LABOR FORCE PARTICIPATION

As Guam has developed economically, labor force participation has provided a measure of how well the government and the private sector have done in providing jobs for the population. Although some data on labor force participation are obtained from periodic surveys on Guam, data for the whole population can only be obtained from a census. Since the decennial census is, by definition, collected only once each decade, it provides a measure every ten years of labor force participation at the particular point in time. By the same token, the census does not provide temporal data; we cannot see change in the labor force characteristics except at the chosen points in time, and the data themselves are extremely affected by temporary ups and downs in the economic situation on Guam, as well as in the United States. In fact, as is sometimes noted, when the United States sneezes economically, Guam often gets a severe case of pneumonia.

REFERENCE WEEK

The data on labor force status relate to the calendar week preceding the date on which respondents were interviewed by enumerators. This week was not the same week for all respondents since the enumeration was not completed in one week. However, for the majority of persons the reference week for the 1980 census was the last week in March 1980. Good Friday occurred in the following week (the first week of April 1980). Many workers presumably took time off from work to observe the holiday, so the holiday could have affected the data on hours worked for some areas if the first week of April was the reference week for a significant number of persons. The holidays probably did not affect the overall measurement of labor force status since labor force data were based on work activity during the entire reference week.

LABOR FORCE STATUS

The data on labor force status were derived from answers to questions 22, 23, and 24.

The series of questions on labor force status was asked of all persons 15 years old and over and was designed to identify, in this sequence: (a) persons who worked at a job or business any time during the reference week; (b) persons who did not work at a job or business during the reference week but who had jobs or businesses from which they were temporarily absent (excluding layoff); (c) persons on layoff; and (d) persons who did not work at a job or business during the reference week, but who were looking for work to earn money during the four weeks and were available for work during the reference week.

Most of the labor force status data shown in this report relate to persons 16 years old and over. In 1950 and 1960, labor force status data were presented for persons 14 years old and over. The change in the universe was made in 1970 to agree with the official measurement of the labor force as revised in January 1967. Selected labor force status data were shown in 1970 for persons 14 and 15 years old, but were not presented in 1980.

Employed. Employed persons included all civilians 16 years and over who were either (a) "at work," at a job or business - those who did any work at all during the reference week as paid employees or in their own business or profession, or on their own farm, or who worked 15 hours or more as unpaid workers on a family farm or in a family business, or (b) were "with a job but not at work," those who did not work during the reference week but had jobs or businesses from which they were temporarily absent due to illness, bad weather, industrial dispute, vacation, or other personal reasons. Excluded from the employed were persons whose only activity consisted of work around the house, subsistence activity, or volunteer work for religious, charitable, and similar organizations.

Unemployed. Persons were classified as unemployed if they were civilians 16 years and over and (a) were neither "at work" at a job or business, nor "with a job but not at work" during the reference week, (b) were looking for work to earn money during the last 4 weeks, and (c) were available to accept a job. Examples of jobseeking activities included: (1) registering at a public or private employment office, (2) meeting with prospective employers, (3) investigating possibilities for starting a professional practice or opening a business, (4) placing or answering advertisements, (5) writing letters of application, and (6) being on a union or professional register.

Also included as unemployed were persons who did not work at all at a job or business during the reference week and were waiting to be called back to a job from which they had been laid off.

Civilian Labor Force. The civilian labor force consisted of persons classified as employed or unemployed in accordance with the criteria described above.

Experienced unemployed. Unemployed persons who had worked at any time in the past excluding subsistence activity were classified as the "Experienced unemployed."

Experienced Civilian Labor Force. The "experienced civilian labor force" comprised the employed and the experienced unemployed.

Labor Force. The labor force included all persons classified in the civilian labor force plus members of the armed forces (persons on active duty with the United States Army, Air Force, Navy, Marine Corps, or Coast Guard).

Not in Labor Force. All persons 16 years old and over who were not classified as members of the labor force were defined as "not in labor force." This category consisted mainly of students, housewives, retired workers, seasonal workers enumerated in an "off" season who were not looking for work, inmates of institutions, disabled persons, persons doing subsistence activity only, and persons doing only incidental unpaid family work (less than 15 hours during the reference week).

Subsistence Activity. A person engaged in subsistence activities if he or she produced goods for his or her own or family's use and needs, such as growing/gathering food, fishing, cutting copra for home use, raising livestock, making handicrafts for home use, and other productive activities not for commercial purposes. When subsistence activity are shown in conjunction with the

"employed" and the "Not in Labor Force" categories of the Labor Force Status concept, they related to activities engaged in during the census reference week.

Worker. The term "Worker" appeared in connection with several subjects in this report: class of worker, weeks worked in 1979, and the number of workers in family in 1979. Its meaning varied and, therefore, should be determined in each case by referring to the definition of the subject in which it appears.

Comparability with Earlier Census Data. The questionnaire items and labor force status concepts for the 1980 census were similar to those used in the 1970 census except that in 1980 a distinction was made between regular work and subsistence activity. However, these concepts differed in many respects from those associated with the 1950 and 1960 censuses.

Comparability with Data from Other Sources. Because employment data from the census are obtained from respondents in households, they differ from statistics based on reports from individual business establishments, farm enterprises, and certain government programs. Persons employed at more than one job were counted only once in the census and were classified according to the job at which they worked the greatest number of hours during the reference week. In statistics based on reports from business and farm establishments, persons who worked for more than one establishment may be counted more than once. Moreover, other series, unlike those presented here, may exclude private household workers, unpaid family workers, and self-employed persons, but may include workers less than 16 years of age.

An additional difference in the data arises from the fact that persons who had a job but were not at work are included with the employed in the statistics shown here whereas many of these persons are likely to be excluded from employment figures based on establishment payroll reports. Furthermore, the labor force status data in this report include persons on the basis of place of residence regardless of where they work, whereas establishment data report persons at their place of work regardless of where they live. This latter consideration is particularly significant when comparing data from workers who commute between areas.

Actual Hours Worked. All persons who reported working at a job or business during the reference week were asked to report in item 22b the number of hours that they worked (excluding any hours spent doing subsistence activity). The number of persons who worked only a small number of hours is probably understated since such persons sometimes consider themselves as not working.

LABOR FORCE STATUS IN 1979

The data on labor force status in 1979 were derived from answers to question 29. Persons 16 years old and over were classified as "in labor force in 1979" if (a) in 1979 they worked one or more weeks for pay or profit (including weeks on paid vacation or on paid sick leave) or worked without pay on a family farm or in a family business or were on active duty in the U.S. Armed Forces; or (b) had any weeks of unemployment in 1979. The categories "Worked in 1979" and "With unemployment in 1979" were not mutually exclusive.

Worked in 1979 (Work Status in 1979). Persons 16 years old and over who worked one or more weeks according to the criteria described below were classified

as "worked in 1979"; all other persons 16 years old and over "did not work in 1979". Some tables showing work status in 1979 include 15 year olds; those persons were classified as "Did not work in 1979", by definition.

Weeks worked in 1979. The data on weeks worked in 1979 were derived from answers to questions 29a and 29d. Question 29d (Weeks worked in 1979) was asked of persons 16 years old and over who indicated in question 29a that they worked in 1979.

The data pertained to the number of weeks during 1979 in which a person did any work for pay or profit (including paid vacation and sick leave) or worked without pay on a family farm or in a family business. Weeks of active service in the U.S. Armed Forces were also included. Persons who did only subsistence activity in 1979 were tabulated in the category "did not work in 1979". It is probable that the number of persons who worked in 1979 and the number of weeks worked were understated since there was some tendency for respondents to forget intermittent or short periods of employment or to exclude weeks worked without pay.

Usual Hours Worked in 1979. The data on usual hours worked per week in 1979 were derived from answers to question 29e. This question was for persons 16 years old and over who indicated that they worked in 1979.

The data pertain to the number of hours a person usually worked during the weeks worked in 1979. The respondent was to report the number of hours worked per week in the majority of the weeks he or she worked in 1979. If the hours worked per week varied considerably during 1979, the respondent was to report an approximate average of hours worked per week. The statistics on usual hours worked per week in 1979 were not necessarily related to the data on actual hours worked during the census reference week (question 22b).

Persons 16 years old and over who reported that they usually worked 35 or more hours per week during the weeks they worked were classified as "usually worked full-time"; persons who reported that they usually worked 1 to 34 hours were classified as "usually worked part-time".

Year-Round Full-Time Workers. Persons 16 years old and over who usually worked 35 or more hours per week for 50 to 52 weeks in 1979 were classified as "year-round full-time workers".

With Unemployment in 1979. Persons 16 years old and over who had one or more weeks of unemployment in 1979 according to the criteria described below were classified as "with unemployment in 1979".

The data on weeks of unemployment in 1979 pertained to the number of weeks during 1979 in which a person 16 years old and over did not work or did subsistence activity only, but spent looking for work to earn money (that is, trying to get a job or start a business or professional practice) or on layoff from a job. Examples of looking for work to earn money are presented in the definition of unemployed. Excluded from weeks of unemployment are any weeks in which the person worked for pay or profit even for one hour; or any weeks in which the person received any wages or salaries; or which the person was on active duty in the U.S. Armed Forces, on paid vacation or on paid leave. The question on weeks of unemployment did not inquire whether persons who recorded looking for

work were available to accept a job. The number of weeks of unemployment is the total number of weeks accumulated during the entire calendar year 1979, regardless of whether the periods of unemployment were continuous.

Mean Weeks of Unemployment. The mean is based on the distribution of persons with unemployment by individual weeks of unemployment from 1 to 52 weeks.

Number of Workers in Family in 1979. The term "Worker" as used for these data is defined according to the criteria described in the section on "Work in 1979".

Comparability With Earlier Census Data. The data on weeks worked collected in the 1980 census are comparable with data from the 1970 census but may not be entirely comparable with data from the 1960 census of Guam. On the two most recent census questionnaires, two separate questions were used to obtain this information. The first identified persons with any work experience during the year and thus, indicated those persons from whom the questions on number of weeks worked was applicable. In 1960, however, the questionnaires contain only a single question on number of weeks worked.

In 1970, persons responded to the weeks worked question by indicating one of six weeks-worked intervals; in 1980 persons were asked to enter the specific number of weeks they worked.

The data on weeks spent looking for work in previous year (1979), on usual hours worked, and on subsistence activity in 1979 were collected in 1980 for the first time.

LABOR FORCE CHARACTERISTICS

Labor force participation for all persons 16 years and over has fluctuated over the years since 1950 (Table 10.1). In that year, 72 percent of those 16 and over were in the labor force; the percent in the labor force decreased to 64 percent, its lowest level, in 1960. The proportion of eligible persons who were in the labor force then increased with each census, until it was at 67 percent in 1980. The proportion of the labor force who were in the Armed Forces decreased every year, from 42 percent in 1950 to 23 percent in 1980. The proportion of unemployed stayed at about 2 percent until 1980, when it jumped to nearly 5 percent.

Table 10.1. Labor Force Participation: 1950 to 1980

Labor Force Participation	1980	1970	1960	1950
Persons 16 yrs & over...	66,773	49,548	41,026	44,133
Labor force.....	44,484	32,493	26,304	31,965
Percent.....	66.6	65.6	64.1	72.4
U.S. Armed Forces.....	10,125	9,997	8,705	13,294
Percent.....	22.8	30.8	33.1	41.6
Civilian Labor Force.....	34,359	22,496	17,599	18,671
Employed.....	32,692	22,112	17,208	(NA)
Unemployed.....	1,667	384	391	(NA)
Percent.....	4.9	1.7	2.2	(NA)
Not in the labor force.....	22,289	17,055	14,722	12,168

Source: U.S. Bureau of the Census Decennial Reports

Tables 10.2 and 10.3 show that the increase in the labor force participation of males from 1960 to 1970 was 12 percent, and that the male participation rate increased another 15 percent between 1970 and 1980; but the increase in the labor force participation rate of females between 1960 and 1970 was 92 percent compared to 114 percent between 1970 and 1980, clearly showing that large numbers of women entered the labor force in the 1960s and 1970s (Figure 10.1).

Table 10.2. Male Labor Force Participation: 1950 to 1980

Labor Force Participation	1980	1970	1960	1950
Males 16 years and over.	35,293	29,085	25,952	32,572
Labor force.....	29,000	25,274	22,551	28,792
Percent.....	82.2	86.9	86.9	88.4
U.S. Armed Forces.....	9,224	9,878	8,660	13,208
Percent.....	31.8	39.1	38.4	45.9
Civilian Labor Force.....	19,776	15,396	13,891	15,584
Employed.....	18,994	15,245	13,680	(NA)
Unemployed.....	782	151	211	(NA)
Percent.....	4.0	1.0	1.5	(NA)
Not in the labor force.....	6,293	3,811	3,401	3,780

Source: U.S. Bureau of the Census Decennial Reports

Figure 10.1 Labor Force Participation by Sex: 1950 to 1980

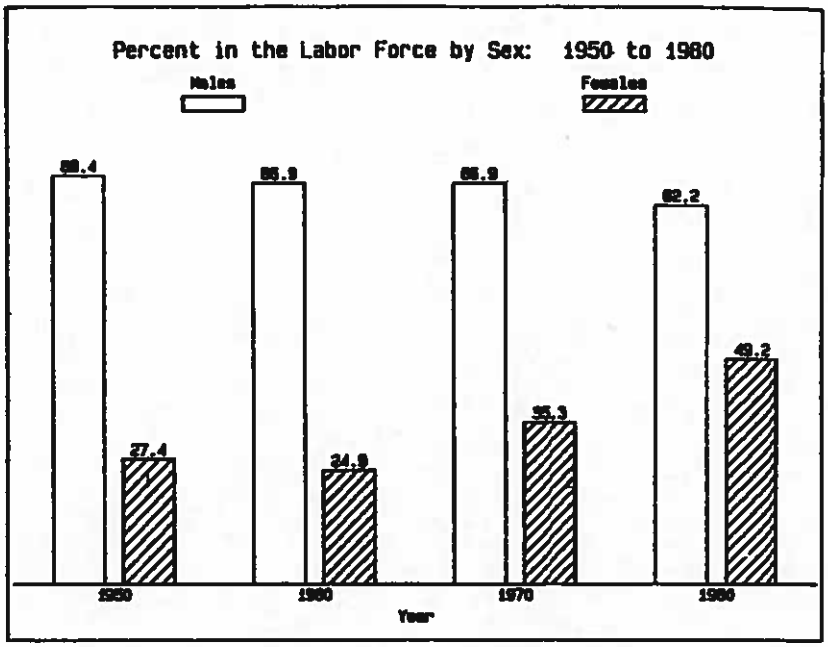


Table 10.3. Female Labor Force Participation: 1950 to 1980

Labor Force Participation	1980	1970	1960	1950
Females 16 yrs and over..	31,480	20,463	15,074	11,561
Labor force.....	15,484	7,219	3,753	3,173
Percent.....	49.2	35.3	24.9	27.4
U.S. Armed Forces.....	901	119	45	86
Percent.....	5.8	1.6	1.2	2.7
Civilian Labor Force.....	14,583	7,100	3,708	3,087
Employed.....	13,698	6,867	3,528	(NA)
Unemployed.....	885	233	180	(NA)
Percent.....	6.1	3.3	4.9	(NA)
Not in the labor force.....	15,996	13,244	11,321	8,388

Source: U.S. Bureau of the Census Decennial Reports

MILITARY

Because Guam was obtained by the United States primarily to function as a strategic outpost, the presence of active duty military has been an especially strong influence in the overall number of employed persons since 1930, the first census to recognize them separately (Table 10.4 and Figure 10.2).

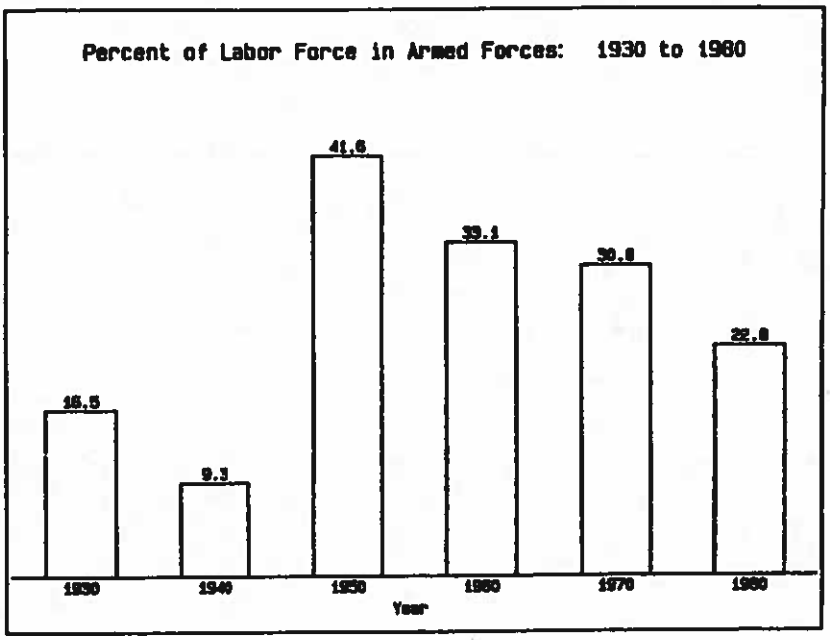
Table 10.4. Armed Forces, Civilian, and Non-Civilian Employment: 1930 to 1980

Labor Force Participation	1980	1970	1960	1950	1940	1930
In the Labor Force...	44,484	32,493	26,304	31,965	6,885	6,175
Armed Forces.....	10,125	9,997	8,705	13,294	640	1,019
Percent.....	22.8	30.8	33.1	41.6	9.3	16.5
Males.....	9,224	9,878	8,660	13,208	640	1,019
Females.....	901	119	45	86	0	0
Percent Female.....	8.9	1.2	.5	.6	0.0	0.0
Civilian.....	34,359	22,496	17,599	18,671	6,245	5,156
Percent change.....	52.7	27.8	-5.7	199.0	21.1	...

Source: U.S. Bureau of the Census Decennial Reports

Active duty military personnel accounted for 1,039 persons (16 percent) of the total labor force in 1930, and 640 (9 percent) in 1940. On July 23, 1944, during the liberation of Guam by the U.S. Marines, Navy personnel came ashore at Orote peninsula. They constructed the Naval Operating Base, and many other installations. The total number of armed services personnel for all branches was 37,735 in 1947 when the largest part of the construction was taking place, but decreased to 13,294 by 1950.

Figure 10.2 Armed Forces Employment: 1930 to 1980
(Percent)



Although the number of military personnel was greatly reduced in peacetime Guam, they represented 42 percent of the employed labor force in 1950. Military activities continued to decrease through the 1950's, so active military employment was only 34 percent of all employed on the island in 1960. Some build-up in the number of military personnel occurred by 1970 to support the Vietnam War effort, but their percent of employed continued to decrease, to 31 percent in 1970. Between 1970 and 1980, although active duty armed forces again increased, their percentage continued to decrease to 23 percent.

Military women did not appear separately in a Guam census until 1950, when they represented less than 1 percent of the total active duty personnel. Their numbers remained small until 1980 when the participation of women jumped to nearly 9 percent of all military personnel, or 901 women out of 10,125 persons. While the number of women increased substantially, the number of males decreased between 1970 and 1980.

CIVILIAN EMPLOYMENT

A summary of the change of civilian employment between 1930 and 1980 is also shown in Table 10.4. The changes in civilian employment followed the same pattern as changes in total employment during the 50 year period. The labor needs of the military affected civilian employment drastically during the 1940's, contributing to the increase of over 12,000 workers between 1940 and 1950.

The temporary nature of the military's labor needs brought about a decrease in the number of civilian workers as a slowdown in military construction activities occurred between 1950 and 1960. Permanent in-migration and immigration beginning in 1962 contributed to the large increase in civilian employment by 1970, growth that continued to accelerate during the following decade. Civilian employment increased by 28 percent between 1960 and 1970, and by 48 percent between 1970 and 1980.

Males made up most of the increase in civilian employment during the 1940's, and almost all of the decrease between 1950 and 1960. The number of males increased by 11 percent between 1960 and 1970, however, and by 25 percent over the following decade. On the other hand, the number of female workers nearly doubled during the 1940's. While civilian male employment decreased during the 1950's, females continued to enter the civilian labor force. After 1960 women began to enter the work place in much larger numbers. Between 1960 and 1970, female civilian workers increased in strength by 95 percent, and by 100 percent the following decade. During the 1960 to 1980 period, there were 10,170 additional female workers, far greater than the 5,314 increase in male workers.

Females were 19 percent of civilian employment in 1930. As ever increasing numbers of females sought employment, the percent of female participation increased to 31 percent of all civilian workers in 1970 and to 42 percent of civilian workers in 1980.

CHAMORRO AND NON-CHAMORRO EMPLOYMENT

Chamorro employment. While Chamorros were 80 percent of all employed persons in 1930, their percentage increased to 87 percent in 1940, corresponding with a reduction of military personnel shown during that year. Despite an increase in

the number of employed Chamorros of 14 percent between 1940 and 1950, the greatly increased number of workers on the island by 1950 left Chamorro workers at only 21 percent of the work force. Their percentage increased to 28 percent in 1960 with the decreased level of imported workers and active duty military. Chamorro workers did not show large gains, however, increasing by only 8 percent over 1950. It was the 1960 to 1980 period that showed the most gains in the number of Chamorros employed. Chamorro workers increased by 6,385 persons in 20 years, or 87 percent.

Because employment for persons other than Chamorros also grew rapidly during the same period, the percentage of Chamorros among the employed rose only slightly, to 32 percent by 1980.

When active duty military are excluded, Chamorros constituted 92 percent of the civilian labor force in 1930 and 1940. Their percentage decreased to 35 percent in 1950, and increased to 41 percent in 1960 and 1980, in spite of an increase in the number of workers of 89 percent between 1960 and 1980.

The history of the growth of Chamorro employment has been related to the transformation of the Guam economy from a subsistence agrarian life style prior to World War II to a wage-based economy beginning in 1944. In 1930, 53 percent of all civilian employment was in agriculture; the percentage decreased to 45 percent in 1940, and then suddenly to 6 percent in 1950, less than 1 percent in 1970, and 2 percent in 1980. Chamorros were more heavily involved in agriculture than the general population; for Chamorro males, for example, while almost two-thirds were in agriculture in 1930, and 6 in 10 in 1940, the proportions dropped to 1 in 5 in 1950 and less than 1 in 16 in 1960. Although no data by sex were available for 1980, since only 99 full- and part-Chamorros were in agriculture, the proportions for males had to be very small.

Non-Chamorro Employment. In 1930, there were only 387 non-Chamorro workers on Guam who were not active duty military. These persons represented less than 8 percent of all civilian employment. By 1940, non-Chamorros had increased by 30 percent, but increases in Chamorro employment caused non-Chamorro employment to rise only slightly, to 8 percent. During the 1940's, the number of non-Chamorros in civilian employment increased by 11,635, to 65 percent of all employed. With a decline in military construction between 1950 and 1960, the number of immigrant workers temporarily decreased. But cancellation of the Naval security requirement for entrance to and exit from the island in 1962, and changes in the immigration law in 1965, allowed the number of non-Chamorro workers in the civilian labor force to increase to over 19,000 workers by 1980. At that point, non-Chamorros in the civilian labor force represented well over half of all civilian employment.

After World War II, the military was unsuccessful in recruiting sufficient numbers of U.S. construction workers to Guam, and also found the local labor supply too small and unskilled to meet needs. The Navy therefore entered into an exchange of notes with the Philippine government in 1947, an arrangement not complying with immigration laws, but being expedient in fulfilling the military's pressing temporary labor problems. In a non-resident census in 1947, 6,964 (percent) of the 12,566 non-resident contract workers were American, and another 5,143 (percent) were Filipino.

In more recent censuses, the proportion of non-Chamorros in the labor force has steadily increased because of in-migration of Americans and immigration of Filipinos, Micronesians, and others.

Agricultural employment. The decrease of agricultural employment for Chamorros from 1930 is entwined with changes in Guam's economic status. Because historic events between 1930 and 1980, especially in the 1940s, were so important to the development of Guam;s Chamorro labor force, a brief recapitulation is appropriate here:

The worst typhoon since 1918 hit Guam on November 3, 1940. Winds of 130 knots destroyed crops and left thousands homeless. Governor McMillan reported that copra production, Guam's largest industry, would not be normal for 5 years due to the destruction of coconut trees. Swine herds and poultry flocks were reduced due to the lack of locally produced feed, and tree crops such as breadfruit, avocados and bananas would not produce normal crops for at least 18 months.

Just 6 months later, as the island struggled to recover from the typhoon, the Japanese attacked and occupied the island on December 8, 1941. Economic development and employment expansion stopped completely for the 2 1/2 year occupation period. During the first part of the occupation, people who wished to remain on their farms were permitted to do so, although they were also able to find some employment. During the last 6 or 7 months, however, conditions degenerated. The Japanese forced all able-bodied persons over the age of 12 to work in the fields, with only a limited amount of food for payment.

Widespread war damage and the possibility of sniper attacks for some months afterward, prevented most Chamorros from engaging in agriculture; many Chamorros, however, joined the non-agricultural work force in the reconstruction efforts.

It was during this time that the decline in agriculture by Chamorros was first mentioned by the military government as a concern. A September 4, 1944 Summary Report of Military Government states that, "Agriculture has made good progress, but is handicapped by uncertainty as to what land will be left by base development. There is also a strong possibility that much agricultural labor will be diverted by naval enlistment and the great demand for Guamanian labor and clerical help by all units."

Much of the best agricultural land was being taken by the military. The combined pressures of agricultural land takings and the high demand for Chamorro labor within the military government contributed to the neglect of the land and the change of Guam from an agricultural to a money-based economy. From that point on, fewer Chamorros were engaged in agriculture.

LABOR FORCE PARTICIPATION

Labor force participation at all age groups for females increased during the 1970s while rates for most age groups of males decreased (Table 10.5). For the youngest group, aged 16 to 19, females in the labor force increased from 23 to 29 percent, while males increased from 42 to 45 percent. The age group from 20 to 24 years could not be compared directly because different age breaks were used in the two censuses, but there was a downward trend for males, and a more dramatic upward trend for females in this age group. For the oldest group, those 65 years and

over, females increased from 5 to 8 percent, while males increased from 26 to 29 percent in the labor force. Throughout all age groups the percentage of males in the labor force was always greater than the percentage of females, and for almost all age groups, the differences were significant. For example, in 1970 only 29 percent of the females 45 to 64 were in the labor force compared to 88 percent of the males.

There is some evidence that women are working longer than they used to, while men seem to be retiring a little earlier than before. The proportion of males 45 to 64 in the labor force decreased from 88 to 82 percent during the decade, while the female labor force participation jumped from 29 to 42 percent. Some of the change for males could be attributed to military personnel departing during the decade and not being replaced; since military persons are in the labor force, by definition, they appear in both the numerator and the denominator when determining labor force participation.

Table 10.5. Labor Force Participation by Age and Sex: 1970 and 1980

	Males		Females	
Age Group	1980	1970	1980	1970
16 to 19 years....	44.9	42.4	29.3	23.1
20 to 24 years....	90.1	(NA)	58.5	(NA)
20 and 21 years.	(NA)	92.8	(NA)	52.3
22 to 24 years..	(NA)	94.4	(NA)	48.9
25 to 34 years....	94.4	96.8	58.3	38.5
35 to 44 years....	95.6	97.1	58.9	38.7
45 to 64 years....	82.0	87.9	42.5	28.7
65 years and over.	29.2	26.2	7.8	4.8

Source: PC80-1-C/D54, Table 36, and PC(1)-B54, Tables 5 and 12

The trend for labor force participation by age is seen more clearly in the smaller age ranges of Table 10.6 (Figure 10.3). By 20 to 24 years old, 3 out of every 4 persons on Guam were in the labor force in 1980, including 9 out of every 10 males and about 6 of every 10 females. The proportions increased for every age group to the 35 to 44 year olds, and then dropped off progressively. These trends are very clear for males, but for females, the proportions remained somewhat the same throughout the ages of 20 to 44 years old, and then dropped off more quickly than those for the males, perhaps because women were dropping out of the labor force to take care of their growing children. It is also possible, however, that for the older women, their children had grown, and that these women never entered the work force, and so appeared in the denominator, but not in the numerator.

Women entered the labor force in great numbers during the 1970s, a time when the absolute growth in the labor force was only slightly greater than the gains in the working age population. Indeed, women accounted for most of the growth of Guam's labor force between 1970 and 1980. While the male component of the labor force remained larger than the female component, it failed to keep pace with the increase of the male working age population. Female participation in the labor force increased by a dramatic 114 percent between 1970 and 1980, accompanied by an increase in the female working age population of only 54 percent.

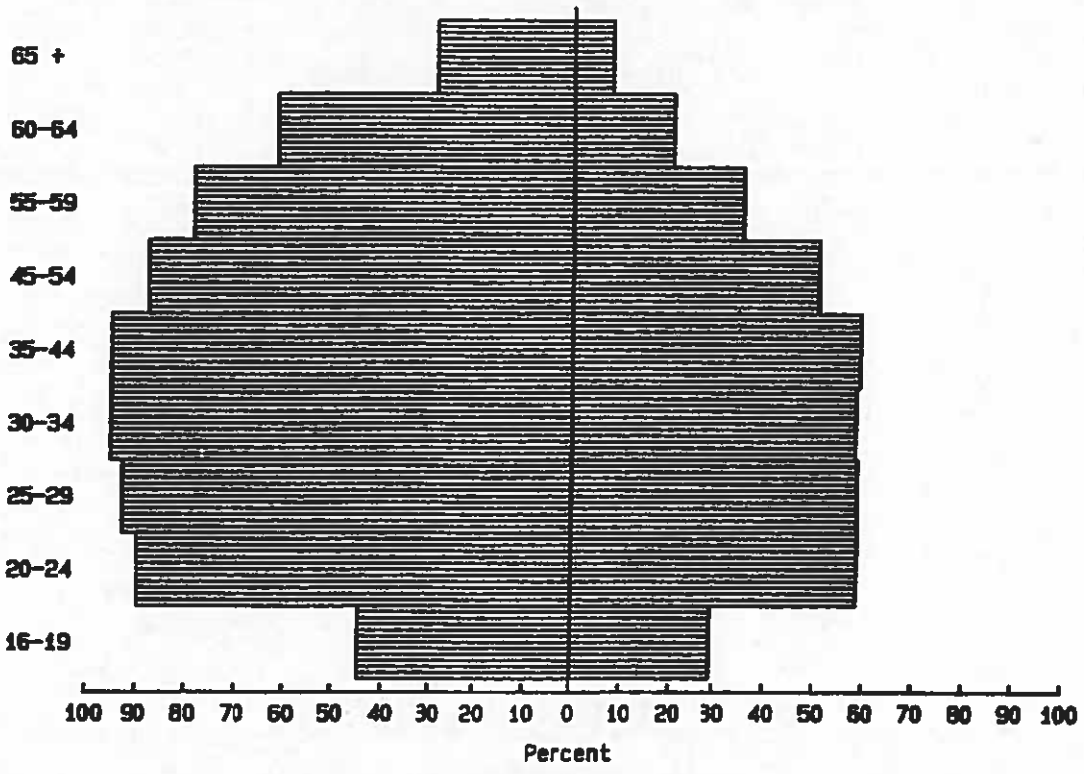
The profile of growth has not been limited to younger women. The 1980 profile showed a substantial growth for every age classification compared to 1970, although the smallest change over time was among women 16 to 24 years old. Marriage, early childbearing, and higher education probably retarded more dramatic growth among young women.

Table 10.6. Age and Sex by Labor Force Participation: 1980

Age Group	Percent		
	Total	Males	Females
Total.....	66.6	82.2	49.2
16 to 19 years.....	37.7	44.9	29.3
20 to 24 years.....	75.6	90.1	58.5
25 to 29 years.....	76.0	93.2	58.5
30 to 34 years.....	77.7	95.6	58.1
35 to 44 years.....	78.5	95.6	58.9
45 to 54 years.....	70.6	87.8	50.4
55 to 59 years.....	59.8	78.9	35.3
60 to 64 years.....	42.0	61.9	20.1
65 years and over.....	17.9	29.2	7.8

Source: U.S. Bureau of the Census PC80-1-C/D54, Table 36

Figure 10.3 Age and Sex by Labor Force Participation: 1980



Not only did women enter the labor force in record numbers between 1970 and 1980, but these women were increasingly likely to be married and have children Table 10.7). In 1960, only 21 percent of women in the labor force were married, but during the ensuing 20 years, there was a 415 percent increase in the number of married women in the labor force, the number increasing from 1,003 in 1960 to 10,318 in 1980. Married women comprised almost half of all women in the labor force in 1980.

By 1980, working mothers had become the "rule" rather than the exception. Of the 15,484 women in the labor force on Guam in 1980, 41 percent had children under 6 years old, and another 32 percent had children between 6 and 17 years old. In contrast, in 1970 31 percent of the 7,219 women in the labor force had children under 6 and 20 percent had children of school age (between 6 and 17 years old). Therefore, there were more women in the labor force in 1980 and they had more children at home to support. In fact, the presence of children appears to be a factor which is strongly correlated with women in the work force. The number of women in the labor force with children living at home more than tripled (increasing by 212 percent) between 1970 and 1980, while the number of women in the labor force with no children under 18 years old increased by only 18 percent. The most dramatic increase was among those mothers with school age children, an increase of 257 percent.

Labor force participation of females used to be somewhat dependent on whether they had young children. The traditional communal society found in Guam might have freed women to work because of having elderly people as built-in babysitters, but many women would be unlikely to join the labor force because they were taking care of their young children. Part-time paid employment also is a recent development in the Pacific, so females would probably not have been able to avail themselves of many work opportunities in the past.

The percentage of females 16 years and over with own children less than 18 years old almost doubled, but the percentage of these women in the labor force more than tripled from 3,600 to 11,210 between 1970 and 1980.

Table 10.7. Females with Own Children by Labor Force: 1970 and 1980

Labor Force	Number		Percent Change 1970 to 1980	Percent of Total		Percent of Category	
	1980	1970		1980	1970	1980	1970
Females, 16 + yrs.	31,480	20,463	53.8	100.0	100.0	...	...
With own child < 18 yrs.	22,188	11,159	98.8	70.5	54.5	100.0	100.0
In the labor force	11,210	3,592	212.1	35.6	17.6	50.5	32.2
Not in labor force	10,978	7,567	45.1	34.9	37.0	49.5	67.8
With own child < 6 yrs.	13,054	7,285	79.2	41.5	35.6	100.0	100.0
In the labor force	6,282	2,213	183.9	20.0	10.8	48.1	30.4
Not in labor force	6,772	5,072	33.5	21.5	24.8	51.9	69.6
With own child 6-17 only	9,134	3,874	135.8	29.0	18.9	100.0	100.0
In the labor force	4,928	1,379	257.4	15.7	6.7	54.0	35.6
Not in labor force	4,206	2,495	68.6	13.4	12.2	46.0	64.4

Source: U.S. Bureau of the Census Summary Tape File 3A, Table 57; PC(1)-B54, 1970, Table 12

The percentage of adult females with own children under 6 and in the labor force increased from 30 percent in 1970 to 48 percent in 1980, and the absolute number almost tripled during the period. Women with children 6 to 17 years old and in the labor force had similar increases.

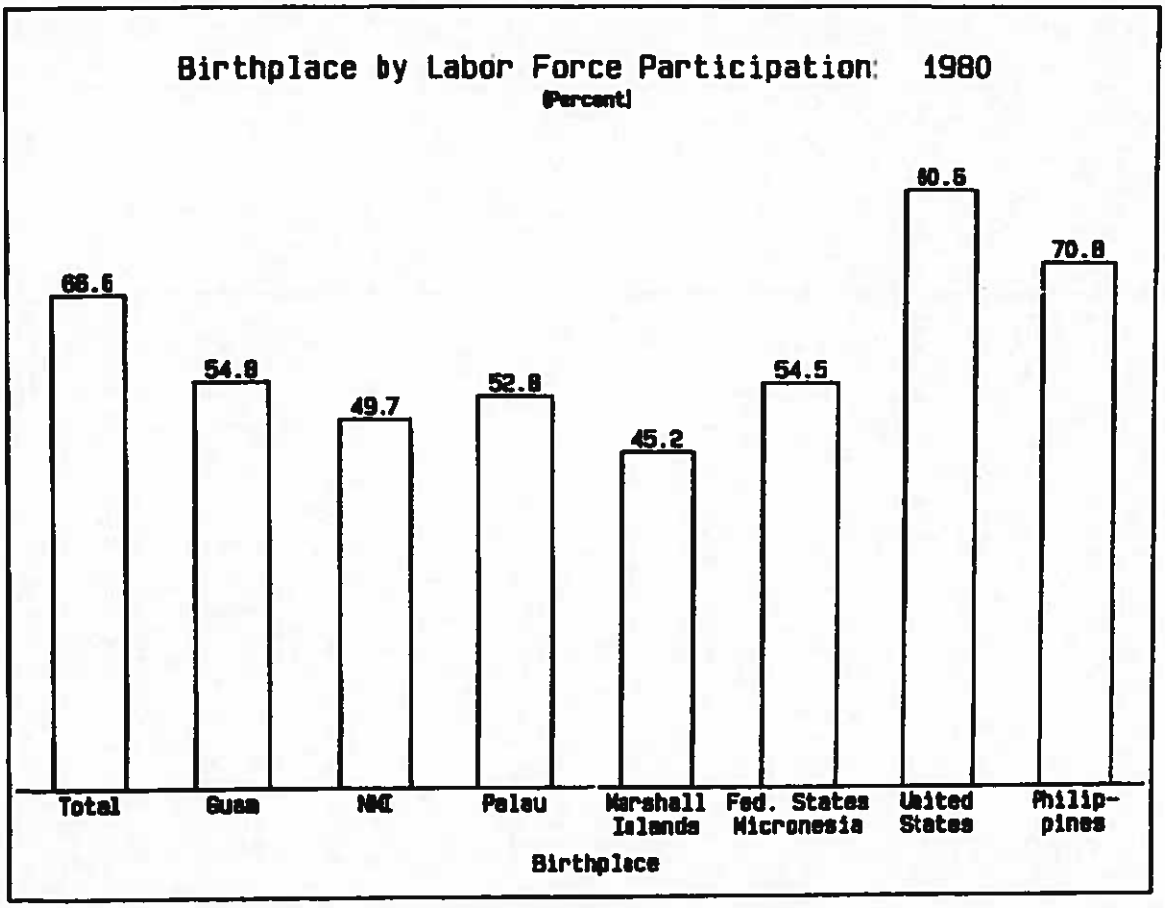
About 55 percent of the adults born on Guam were in the labor force in 1980, including 68 percent of the males and 44 percent of the females (Table 10.8 and Figure 10.4). The highest labor force participation rates in 1980 were for persons born in the United States (94 percent for males and 59 percent for females). The rates for persons born in Asia were also high. In-migration by women from the U.S. and immigration from Asian countries contributed in large measure to the growth of the female labor force during the 1970s. By 1980, only 39 percent of the female labor force was composed of women born on Guam, 24 percent were immigrants from the U.S. and 31 percent were born in Asia.

Table 10.8. Birthplace by Labor Force Participation: 1980

Birthplace	Percent in the Labor Force		
	Total	Males	Females
Total.....	66.6	82.2	49.2
Guam.....	54.8	67.5	43.8
Northern Mariana Islands...	49.7	69.0	33.4
TTPI.....	53.1	71.5	37.2
Palau.....	52.8	72.8	38.2
Marshall Islands.....	45.2	68.8	20.0
Fed. States Micronesia...	54.5	69.5	35.8
United States.....	80.6	94.1	58.7
Asia.....	69.4	86.0	52.1
Japan and Okinawa.....	68.4	88.7	55.8
Korea.....	64.3	87.1	45.6
Philippines.....	70.8	85.8	53.4

Source: U.S. Bureau of the Census PC8C-1-C/D57A, Table 37

Figure 10.4 Labor Force Participation by Birthplace: 1980
(Percent)



As might be expected, there was a direct correlation between educational attainment and labor force participation (albeit with a very slight drop for persons with exactly 8 years of elementary school)(Table 10.9 and Figure 10.5). About 7 in every 10 persons 25 years and over were in the labor force, with about 7 out of every 8 males and about half the females. For every level of educational attainment male labor force participation was greater than for females, although the gap narrowed considerably with increasing educational attainment. More than 9 out of every 10 males and 6 of every 10 females with some college education were in the labor force in 1980.

Education and labor force participation were strongly related in 1980. The more highly educated a woman was, the more likely she was to seek work. In 1980, the labor force participation rate for women with 4 or more years of college was 79 percent, compared to 57 percent for those with a high school education, and 30 percent for those with less than a high school education.

Table 10.9. Years of Schooling Completed by Labor Force Status: 1980

Years of Schooling	Percent in the Labor Force		
	Total	Males	Females
Persons, 25 + years...	69.9	87.4	50.7
None.....	22.2	37.6	13.9
Elementary: 1 to 4 years...	31.6	52.5	17.8
5 and 6 years..	47.2	68.9	29.9
7 years.....	53.1	73.3	31.4
8 years.....	53.0	75.0	32.0
High School: 1 year.....	59.1	82.7	35.7
2 years.....	64.0	86.5	39.9
3 years.....	65.6	87.9	41.2
4 years.....	76.1	93.2	56.9
College: 1 to 3 years..	81.2	92.9	63.8
4 years.....	84.3	95.3	72.6
5 and 6 years.	90.3	95.6	83.8
7 or more yrs.	92.1	95.6	82.9

Source: U.S. Bureau of the Census PC80-1-C/D57A, Table 39

About 22,300 persons 16 years and over were not in the labor force in the week before the census (Table 10.10). Of these, 49 percent had never worked. About 45 percent of those who did report a year last worked had worked last in either 1979 or 1980. About 48 percent of the non-workers from the south last worked in one of those two years, with about 44 percent of those who worked before having done so in 1980.

Figure 10.5 Labor Force Participation by Educational Attainment: 1980

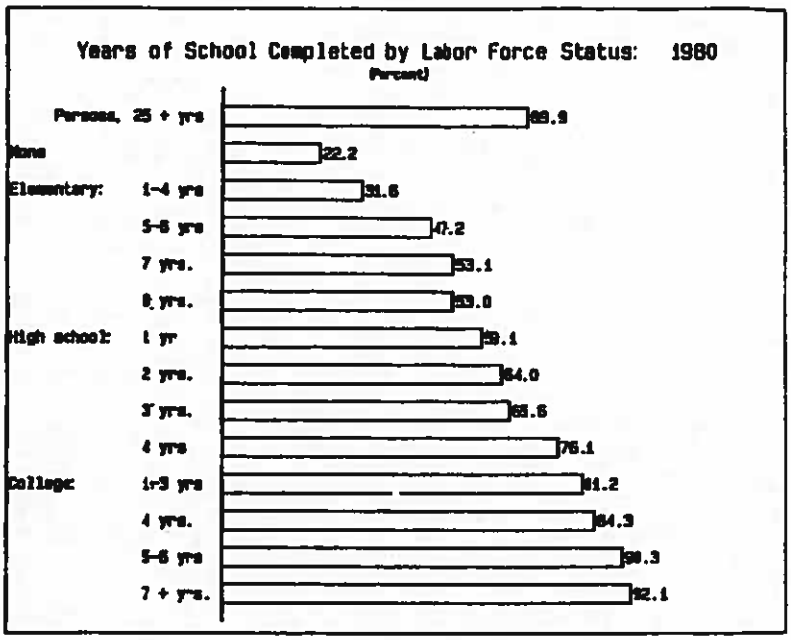


Table 10.10. Year Last Worked for Persons Not in Labor Force: 1980

Year Last Worked	Numbers				Percent			
	Total	North	Central	South	Total	North	Central	South
Prsns 16+, Not LF	22,289	9,417	7,591	5,281	100.0	100.0	100.0	100.0
Never worked	10,960	4,693	3,770	2,497	49.2	49.2	49.8	49.7
Worked	11,329	4,724	3,821	2,784	100.0	100.0	100.0	100.0
1980	1,614	617	522	475	14.2	13.1	13.7	17.1
1979	3,470	1,473	1,149	848	30.6	31.2	30.1	30.5
1978	1,251	551	411	289	11.0	11.7	10.8	10.4
1975 to 1977	1,646	742	529	375	14.5	15.7	13.8	13.5
1970 to 1974	1,943	783	681	479	17.2	16.6	17.8	17.2
1969 or earlier	1,405	558	529	318	12.4	11.8	13.8	11.4

Source: U.S. Bureau of the Census Summary Tape File 3A, Table 167

Also, in looking at female labor force participation, it is important to note that jobs for women on Guam have evolved from more than half of all employed women working in private household occupations in 1940, to a high proportion of professional, managerial, clerical, sales, and service occupations in 1980. Dependence on household employment dwindled after 1950, as women applied for jobs created by the federal and territorial governments. Unprecedented growth in

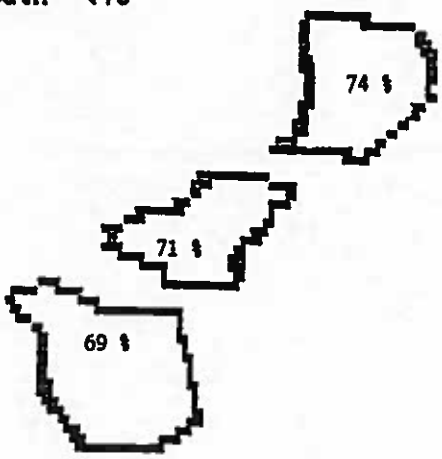
Guam's economy between 1970 and 1980 further affected the private sector job market, producing more jobs for women in the private sector than in the public sector for the first time. By 1980, employment for women had become heavily oriented toward occupations which were performed equally well by both sexes and where male workers faced increasing competition from women. (These concepts are explored in Chapter 11).

LABOR FORCE PARTICIPATION IN 1979

In addition to information on labor force participation in the week before the census, the 1980 census also collected information on labor force participation in all of 1979 (the year before the census). Labor force participation in the week before the census allows us to obtain data about the labor force once every decade, as a snapshot for that week, but the week may not be representative of labor force participation over a year, so another series of questions is used to obtain that type of information.

The data on labor force status in 1979 were derived from answers to question 29 on the 1980 census form. Persons 16 years old and over were classified as "in labor force in 1979 if (a) in 1979 they worked 1 or more weeks for pay or profit (including weeks on paid vacation or on paid sick leave, or in a family business), or were on active duty in the U.S. Armed Forces; or (b) had any weeks of unemployment in 1979. The categories "Worked in 1979" and "With unemployment in 1979" were not mutually exclusive.

About 72 percent of the population 16 years and over were in the labor force in 1979 (Table 10.11). The northern region had the highest percentage in the labor force in 1979 (74 percent), followed by the central region (71 percent) and the south (70 percent).



Percent in Labor Force in 1979

Table 10.11. Labor Force Participation in 1979: 1980

Labor Force	Numbers				Percent			
	Total	North	Cen-tral	South	Total	North	Cen-tral	South
Persons, 16 + yrs....	66773	30232	22410	14131	100.0	100.0	100.0	100.0
In Labor Force in 1979..	48033	22233	15978	9822	71.9	73.5	71.3	69.5
Worked in 1979.....	46253	21344	15450	9459	69.3	70.6	68.9	66.9
With unemployment...	2854	1280	884	690	4.3	4.2	3.9	4.9
No unemployment.....	43399	20064	14566	8769	65.0	66.4	65.0	62.1
No work in 1979, with unemploymt in 1979...	1780	889	528	363	2.7	2.9	2.4	2.6
Not in labor force.....	18740	7999	6432	4309	28.1	26.5	28.7	30.5

Source: U.S. Bureau of the Census Summary Tape File 3A, Table 58

Of the 48,033 persons in the labor force on Guam in 1979, 46,253 worked in 1979 (96 percent). Of these, only 2,854 (6 percent) experienced some unemployment. There were also 1,780 additional persons (3 percent of those 16 years and older) who, by definition, did not work in 1979.

As was true for labor force participation in the week before the census, male labor force participation in 1979 was greater than female labor force participation (Tables 10.12 and 10.13). About 86 percent of all adult males were in the labor force in 1979, as were about 57 percent of all adult females. The rates by region were comparable to those seen for the total population. Unemployment rates were low for both males and females.

Table 10.12. Male Labor Force Participation in 1979: 1980

Labor Force	Numbers				Percent			
	Total	North	Cen-tral	South	Total	North	Cen-tral	South
Males, 16 + yrs....	35293	15774	12141	7378	100.0	100.0	100.0	100.0
In Labor Force in 1979..	30158	13594	10260	6304	85.5	86.2	84.5	85.4
Worked in 1979.....	29469	13268	10020	6181	83.5	84.1	82.5	83.8
With unemployment...	1344	564	431	349	3.8	3.6	3.5	4.7
No unemployment.....	28125	12704	9589	5832	79.7	80.5	79.0	79.0
No work in 1979, with unemploymt in 1979...	689	326	240	123	2.0	2.1	2.0	1.7
Not in labor force.....	5135	2180	1881	1074	14.5	13.8	15.5	14.6

Source: U.S. Bureau of the Census Summary Tape File 3A, Table 58

Although women were working in larger numbers than ever before, only one-half of those who worked in 1979 had full time jobs and worked year-round. Working women past peak childbearing years were more likely to hold full-time, year-round jobs than 16 to 29 year olds. Sufficient data to analyze which women chose to

work part-time and why are not available; however, home responsibilities and the presence of children probably played a major role in the number of hours women worked.

Table 10.13. Female Labor Force Participation in 1979: 1980

Labor Force	Numbers				Percent			
	Total	North	Central	South	Total	North	Central	South
Females, 16 + yrs..	31480	14458	10269	6753	100.0	100.0	100.0	100.0
In Labor Force in 1979..	17875	8639	5718	3518	56.8	59.8	55.7	52.1
Worked in 1979.....	16784	8076	5430	3278	53.3	55.9	52.9	48.5
With unemployment...	1510	716	453	341	4.8	5.0	4.4	5.0
No unemployment.....	15274	7360	4977	2937	48.5	50.9	48.5	43.5
No work in 1979, with unemploymt in 1979...	1091	563	288	240	3.5	3.9	2.8	3.6
Not in labor force.....	13605	5819	4551	3235	43.2	40.2	44.3	47.9

Source: U.S. Bureau of the Census Summary Tape File 3A, Table 58

Respondents were also asked to give the number of hours they usually worked each week in 1979. These data pertained to the number of hours a person usually worked during the weeks worked in 1979. The respondent was to report the number of hours worked per week in the majority of the weeks he or she worked in 1979. If hours worked per week varied considerably in 1979, the respondent was to report an approximate average of the hours worked per week.

About 79 percent of the males who worked in 1979 worked between 50 and 52 weeks (Table 10.14). On the other hand, about 10 percent worked less than half of the year (1 to 26 weeks).

Fully 93 percent of the males worked full-time (35 or more hours per week) during 1979. Of these, most worked the whole year, so were considered year-round full-time workers. Very few males on Guam worked only part-time in 1979. Fewer of the females (57 percent) worked for the whole year.

Table 10.14. Persons Who Worked in 1979 by Usual Hours Worked in 1979 and Weeks Worked: 1980

Hours and Weeks Worked	Numbers			Percent		
	Total	Males	Females	Total	Males	Females
Persons, 16+ yrs	46253	29469	16784	100.0	100.0	100.0
50 to 52 weeks....	32759	23261	9498	70.8	78.9	56.6
40 to 49 weeks....	4000	2302	1698	8.6	7.8	10.1
27 to 39 weeks....	2591	1114	1477	5.6	3.8	8.8
1 to 26 weeks.....	6903	2792	4111	14.9	9.5	24.5
Usually worked 35+ hrs/week....	41026	27415	13611	88.7	93.0	81.1
50 to 52 weeks....	31040	22431	8609	67.1	76.1	51.3
40 to 49 weeks....	3504	2105	1399	7.6	7.1	8.3
27 to 39 weeks....	2009	920	1089	4.3	3.1	6.5
1 to 26 weeks.....	4473	1959	2514	9.7	6.6	15.0
Usually worked 1-34 hrs/week...	5227	2054	3173	11.3	7.0	18.9
50 to 52 weeks....	1719	830	889	3.7	2.8	5.3
40 to 49 weeks....	496	197	299	1.1	0.7	1.8
27 to 39 weeks....	582	194	388	1.3	0.7	2.3
1 to 26 weeks.....	2430	833	1597	5.3	2.8	9.5

Source: U.S. Bureau of the Census Summary Tape File 3A 1980 Table 59.

DATA FROM CURRENT LABOR FORCE SURVEY

Because of the limitations of census data in providing timely pictures of the employment situation on Guam, the Department of Labor's Bureau of Labor Statistics conducts quarterly Current Labor Force Surveys (CLFS) throughout the island. The universe covered by the CLFS is the civilian non-institutional population on Guam, excluding members of the U.S. Armed Forces and their families living on military reservations. Permanent resident aliens (immigrants) are included in the survey whereas non-resident aliens (non-immigrants) are excluded. The over 20,000 housing units excluding the units inside the military reservations and alien construction workers barracks form the sampling frame for the CLFS.

The estimates presented here are based on data obtained in the March 1980 CLFS. Approximately 1,800 housing units were randomly selected for interview during the reference period of March 1980. Of that number, about 200 occupied units were visited but interviews were not obtained because the occupants were not found at home after repeated calls, or were unavailable for some other reason. There were also about 350 sample units which were visited but were found to be vacant or otherwise ineligible for interview.

Table 10.15 presents data from the CLFS from March 1980 to March 1987; Table 10.17 compares the CLFS data with 1980 Census data. For this table, the Civilian labor force included those 16 years of age and over excluding non-immigrant aliens, members of the U.S. Armed Forces and their dependents living in military installations.

According to the Current Labor Force Survey, the proportion of the civilian labor force who were employed rose from 91 percent in 1980 to 94 percent in 1987. The majority of employed in each year were full-time workers.

Table 10.15. Current Labor Force Survey Data: March 1980 to March 1987

Categories	1987	1986	1985	1984	1983	1982	1981	1980
Civilian Labor Force..	36250	35590	33440	33490	33860	33000	34460	33800
Total Employed.....	34270	33460	31270	30670	30830	30120	32230	30390
Percent.....	94.5	94.0	93.5	91.6	91.1	91.3	93.5	91.4
Full-time Workers.....	31460	30660	28370	27820	26840	25890	28840	27730
Part-time Workers.....	2810	2800	2900	2850	3980	42230	3380	3060
U.S. Citizens.....	28850	29010	26990	25490	25520	23660	25840	25560
Immigrant Aliens.....	5420	4460	4280	5180	5310	6460	6390	5320

Note: Civilian labor force includes those 16 years old and over excluding non-immigrant aliens, members of the U.S. Armed Forces and their dependents living in military installations.
Source: Bureau of Labor Statistics, Department of Labor, Government of Guam

Based on the 1980 Census, the total labor force was 44,484 persons (Table 10.16). The CLFS, due to the way it is conducted, has the civilian labor force as its total labor force; the CLFS labor force is correspondingly smaller than the Census figure.

Table 10.16 Comparison of Current Labor Force Survey (CLFS) and Census: 1980

Item	Census	CLFS
Total labor force.	44484	33800
Total unemployed..	1667	2910
Unemployment rate.	3.7	8.6

Source: U.S. Census Bureau PC80-1-C/D54 1980 Table 36; Bureau of Labor Statistics, Department of Labor, Government of Guam.

The difference in the unemployment count between the 1980 Census and the March 1980 Current Labor Force Survey was probably due to different definitions of unemployment. The difference in the unemployment rates was mainly due to the fact that the CLFS excluded the Armed Forces. Since there are no unemployed persons in the Armed Forces, their presence in the denominator increases the labor force population without adding to the unemployed in the numerator, thus reducing the unemployment rate.

SUMMARY

This chapter has shown the increase in the labor force over the years, especially in the number of females entering the labor force. In the last 10

years, the number of women in the labor force more than doubled, especially those with children under the age of 18.

Labor force participation rates by place of birth showed that those born in the U.S. and Asia were more likely to be employed than those from the Trust Territory or the CNMI. Educational attainment was correlated with employment status, as could be expected, with those having more education being more likely to be employed.

For those not currently employed in 1980, most had worked in the year before the census (1979), with proportions almost evenly distributed among the island's three regions.

CHAPTER 11
INDUSTRY, OCCUPATION, AND CLASS OF WORKER

The data on industry, occupation, and class of worker were derived from answers to questions 26, 27 and 28.

This series of questions was used to obtain industry, occupation, and class of worker information for the employed, the experienced unemployed, and experienced workers not currently in the labor force. The last two categories applied to persons who had worked at some time during the past 5 years. All three items related to one specific job that the person held. For an employed person, the information referred to the job held during the reference week. Those who were employed at two or more jobs reported the job at which they worked the greatest number of hours during the reference week. For experienced unemployed persons and for those not in the labor force, the information referred to the last job they held.

Clerical staff in the Census Bureau's processing office in California converted the written industry and occupation descriptions from the questionnaire to identifying codes by relating these description to an entry in the Alphabetical Index of Industries and Occupations (PHC80-R3), 1982, U.S. Government Printing Office, Washington, D.C. For the industrial code, these coders first referred to a Company Name List. This list, prepared from the Standard Statistical Establishment List developed by the Bureau of the Census for use in the economic censuses and surveys, contained the names of establishments and their Standard Industrial Classification code converted to population census equivalents. This listing facilitated coding and helped maintain industrial classification comparability.

There was an important addition to the Industry and Occupation coding for Guam. Some people living on Guam did not have regular jobs, but did work-like activities to support themselves. These are called "subsistence activities" and included activities such as cutting and selling copra, making or selling handicrafts, fishing for one's own food, and growing food for one's own use. Persons who reported a subsistence activity received special industry and occupation codes that were not found in the Alphabetical Index.

Occupation Classification System

The system developed for the 1980 census consisted of 503 specific occupation categories arranged into 6 summary and 13 major occupation groups. The Classified Index of Industries and Occupations (PHC80-R4), 1982, U.S. Government Printing Office, Washington, D.C., provided information on the composition of the detailed categories in the census system.

This classification was developed to be consistent with the 1980 Standard Occupational Classification Manual (SOC), published by the U.S. Department of Commerce, Office of Federal Statistical Policy and Standards, and was the first time a United States standard was used in developing the census occupational classification.

The conversion of the census classification to the SOC caused the 1980 census classification to be less comparable with the classifications used in earlier censuses. (See the section of "Comparability".)

Industry Classification System

The industry classification system developed for the 1980 Census of Population consisted of 231 categories classified into 13 major industry groups. Since 1940 the industrial classification has been based on the Standard Industrial Classification Manual (SIC). The 1980 census classification was developed from the 1972 SIC published by the Executive Office of the President, Office of Management and Budget, and the 1977 supplement to that manual.

Relation to Standard Industrial Classification. The Standard Industrial Classification (SIC) was developed under the sponsorship of the Office of Management and Budget and was designed for the classification of establishments by type of industrial activity in which they were engaged. One of the major purposes of the SIC is to promote uniformity and comparability in the presentation of statistical data collected by various agencies. Accordingly, in the Census of Population the industry categories were defined in these terms. However, population census reports, which are collected from households, differ in nature and detail from those obtained from establishment reports. Therefore, the population census classification system, though defined in SIC terms, cannot reflect the full detail of the SIC system.

In addition, population census data may differ from other industrial data because the dates to which the data refer may not be the same: workers who lived in one geographic area and work in another may have been reported at their place of residence by the population census but at their place of work in surveys; and dual jobholders may be counted in the reports of two establishments but counted in the census for only their major job.

Relation of Some Industry Groups to Similar Classes of Worker. The industry category "Public Administration" was limited to regular government functions such as legislative, judicial, administrative, and regulatory activities of governments. Other government organizations such as schools, hospitals, liquor stores, and bus lines were classified by industry according to the activity in which they were engaged. On the other hand, the class of worker government categories include all government workers.

CLASS OF WORKER

The class of worker item on the questionnaire consisted of seven categories which were defined as follows:

1. Private wage and salary workers were persons who worked for a private employer for wages, salary, commission, tips, pay-in-kind, or at piece rates. Private employers included churches and other non-profit organizations.

2. Government workers were persons who worked for any governmental unit, regardless of the activity of the particular agency. This category was subdivided by the level of government: (a) United States and (b) local (territorial and its subdivisions).

3. Self-employed workers had their own businesses, whether incorporated or not.

a. Self-employed workers in own business not incorporated were persons who worked for profit or fees in their own unincorporated business, profession, or trade, or who operated a farm. Included here were the owner-operators of large stores and manufacturing establishments as well as small merchants, independent craftpersons and professionals, farmers, peddlers, and other persons who conducted enterprises of their own.

b. Self-employed workers in own business incorporated were persons who considered themselves self-employed but worked for corporations. In most cases the respondents owned or were part of a group that owned controlling interest in the corporation. Since all workers of a corporation were defined as wage and salary workers, this category was tabulated with "private wage and salary workers," and shown as a subcategory of that group.

4. Unpaid family workers were persons who worked without pay on a farm or in a business operated by a person to whom they were related by blood or marriage. These were usually the children or the wife of the owner of a business or farm.

5. Subsistence activity workers were those who worked without pay, mainly to produce goods for his or her own family's use or needs.

Edit and Allocation Procedures

Occasionally respondents supplied industry, occupation, or class of worker descriptions which were not sufficiently specific for precise classification or did not report on these items. Some of these cases were corrected through the field editing process and during the coding and tabulation operations. In the coding operation certain types of incomplete entries were corrected using the Alphabetical Index of Industries and Occupations. For example, it was possible in certain situations to assign an industry code based on the occupation reported.

Following the coding operation, there was a computer edit and allocation process. The edit first determined whether a respondent was in the universe which required an industry and occupation code. The codes for the three items (industry, occupation, and class of worker) were checked to make sure that they were valid and were edited for their relation to each other. Invalid and inconsistent codes were either blanked or changed to a consistent code.

If one or more of the three codes were blank after the edit, a code was allocated from a "similar" person based on other items such as age, sex, education, farm or nonfarm residence, and weeks worked. This was the first census that allocated industry and occupation to detailed categories.

Comparability with Earlier Censuses

In 1950 information on occupation was obtained from the last job of persons who worked as civilians in 1949. Comparability of industry and occupation data is affected by a number of factors, a major one being the systems used to classify the questionnaire responses. For both the industry and occupation classification systems, the basic structures were generally the same from 1940 and 1970, but changes in the individual categories limited comparability of the data from one census to another. These changes resulted from the need to recognize the "birth" of new industries and occupations, the "death" of others, and growth and decline in existing industries and occupations, as well as the desire of analysts and other users for increased detail in presentation of the data. Probably the greatest cause of incomparability is the movement of a segment of a category to a different category in the next census. Such movements are necessitated by changes in functions and respondent terminology, and refinement of category composition.

In the 1980 census, the industry classification underwent limited change to reflect changes to the SIC. The occupation classification, however, was substantially revised because of the adoption of the Standard Occupational Classification by Federal agencies. During this entire period, from 1940 to 1980, the number of categories in the industry classification system increased from 132 to 231, and in the occupation system from 224 to 503.

Other factors that affect data comparability include the universe to which the data refer (in 1970, the age cutoff for labor force was changed from 14 years to 16 years); how the industry and occupation questions are worded on the questionnaire (for example, important changes were made in 1970); improvement in the coding procedures (the Company Name List technique was introduced in 1980); and how the "not reported" cases were handled. Prior to 1970, the not reporteds were placed in residual "Industry not reported" and "Occupation not reported" categories. In 1970, an allocation process was introduced through which these cases were assigned to major groups. In 1980, the "not reported" cases were assigned to individual categories. Therefore, the 1980 data for individual categories included some numbers of persons who would have been tabulated in a "Not reported" category in previous censuses.

Comparability With Other Data

Comparability between statistics presented here and statistics from other sources is affected by many of the factors described in the section of "Labor force status". These factors are primarily geographic differences between residence and place of work, different dates of reference, and differences in counts because of dual job holding. Industry data from population censuses cover all industries and all kinds of workers, whereas data from establishments often exclude private household workers, government workers, and the self-employed. Also, the replies from household respondents may differ in detail and nature from those obtained from establishments.

Occupation data from the census and data from government licensing agencies, professional associations, trade unions, etc., may not be as comparable as expected. Organizational listings often include persons not in the labor force or persons devoting all or most of their time to another occupation; or the same persons devoting all or most of their time to another occupation; or the same person may be included in two or more different listings. In addition, relatively

few organizations, except for those requiring licensing, attain complete coverage of membership in a particular occupation field.

INDUSTRY CHARACTERISTICS

In all, there were 32,692 employed persons 16 years and over in 1980. The largest industry category in 1980 was retail trade, which was a shift from 1970, when the largest industry category was public administration (Table 11.1 and Figure 11.1). The second largest category was professional and related services which increased from 17 percent of employed adults in 1970 to 20 percent in 1980. Public administration was the third largest category in 1980 with 18 percent, moving down from being the largest in 1970. The percentage of employed adults in construction decreased rather significantly from 17 percent in 1970 to 9 percent in 1980.

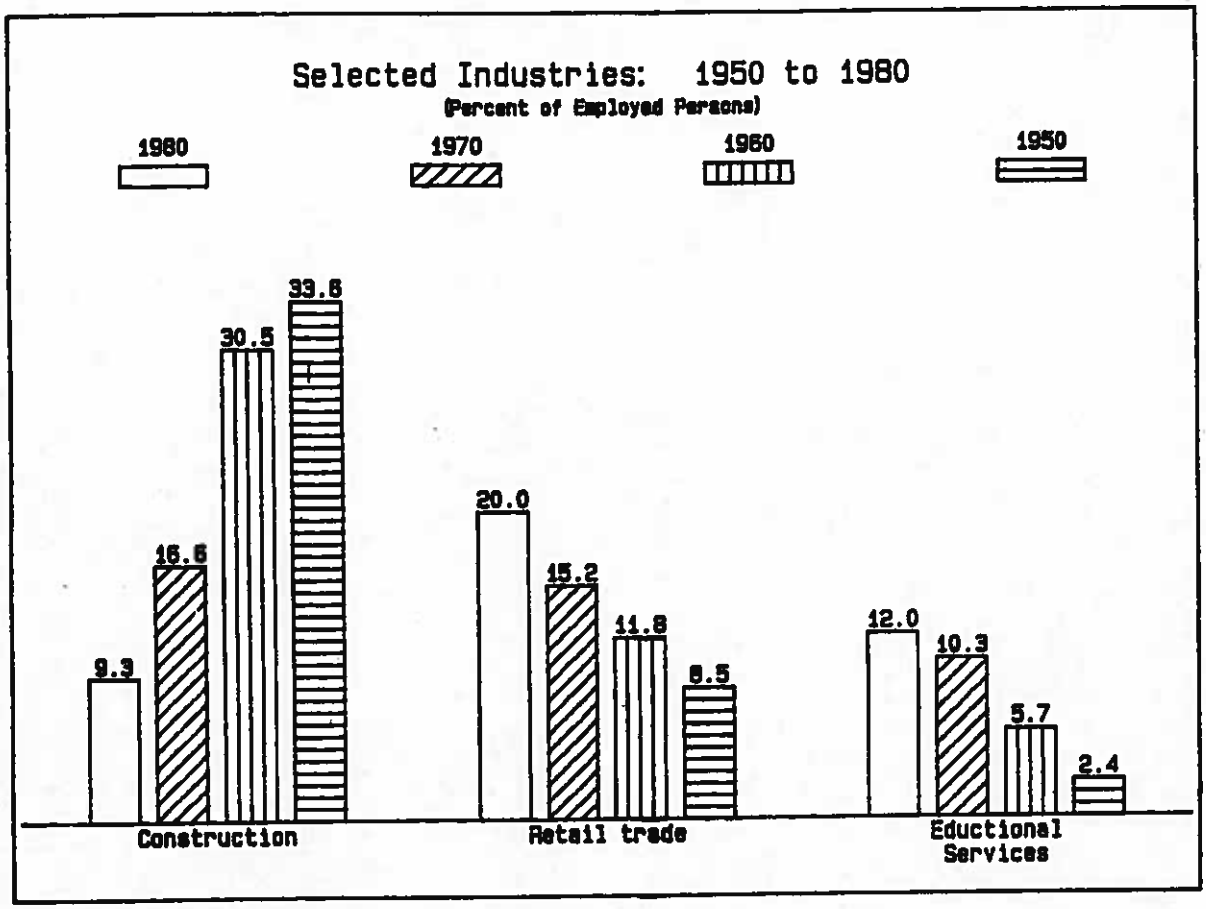
The impact from the development of tourism was evident in two categories - retail trade and personal, entertainment, and recreational services. The percentage of the population involved in personal, entertainment and recreational services increased between 1970 and 1980, from 4 percent to 6 percent.

Table 11.1. Industry: 1950 to 1980

Industry	1980	1970	1960	1950
Employed 16 yrs and over.....	32,692	22,112	17,208	18,671
Percent.....	100.0	100.0	100.0	100.0
Agriculture, fishing, mining.....	.9	.8	2.6	6.6
Construction.....	9.3	16.6	30.5	33.6
Manufacturing.....	4.9	6.2	2.9	2.1
Nondurable goods.....	2.5	1.8	1.7	1.3
Durable goods.....	2.4	4.5	1.2	.8
Transportation.....	5.8	5.1	6.0	13.4
Communications.....	4.4	3.7	.9	1.3
Wholesale trade.....	2.3	1.5	1.6	1.3
Retail trade.....	20.0	15.2	11.8	8.5
Finance, insurance & real estate..	4.8	2.5	.9	.5
Business and repair.....	3.6	6.6	1.2	1.9
Personal entertainment and recreation services.....	6.4	3.9	5.2	5.7
Professional and related services.	19.6	17.1	9.7	5.1
Health.....	4.1	3.9	2.9	1.9
Educational services.....	12.0	10.3	5.7	2.4
Other professional services.....	3.5	2.9	1.1	.7
Public Administration.....	17.9	20.9	25.9	19.0
Subsistence and Not Stated.....	.0	0.0	.6	.9

Source: U.S. Bureau of the Census Decennial Reports

Figure 11.1 Selected Industries: 1950 to 1980
(Percent of Employed Persons)



The 18,994 employed males 16 years and over in 1980 made up 58 percent of the total work force. Of these, the largest proportion was in public administration, 21 percent (Table 11.2). That is, approximately 1 in every 5 employed males in 1980 was in the public sector. Although still a large proportion, the percentage of males employed in public administration steadily decreased, from 28 percent in 1960 to 21 percent in 1980. The second largest industry category for males was in retail trade, which employed 15 percent of the males in 1980, an increase from the 11 percent in this category in 1970. Construction followed closely as the third largest employer, accounting for 15 percent in 1980. However, unlike retail trade, this figure decreased significantly from 23 percent in 1970. Finance, insurance, and real estate more than doubled from 1.5 percent in 1970 to 3.2 percent in 1980, as did personal, entertainment, and recreational services, which increased from 2.4 to 5.2 percent during the decade.

Table 11.2. Industry: Males, 1950 to 1980

Industry	1980	1970	1960	1950
Employed males, 16 + yrs.....	18,994	15,245	13,680	15,584
Percent.....	100.0	100.0	100.0	100.0
Agriculture, fishing, mining.....	1.3	1.0	2.9	7.4
Construction.....	14.8	23.1	38.2	39.4
Manufacturing.....	6.9	7.5	3.1	2.1
Nondurable goods.....	3.0	2.0	1.7	1.3
Durable goods.....	3.9	5.5	1.4	.8
Transportation.....	8.0	6.5	7.3	16.0
Communications.....	6.1	4.6	.9	1.4
Wholesale trade.....	2.9	1.8	1.8	1.3
Retail trade.....	15.0	11.2	7.8	5.5
Finance, insurance & real estate...	3.2	1.5	.5	.3
Business and repair.....	4.8	9.0	1.4	2.2
Personal entertainment and recreation services.....	5.2	2.4	3.0	3.4
Professional and related services..	11.0	8.9	4.9	2.5
Health.....	2.0	2.0	1.8	1.0
Educational services.....	6.0	4.6	2.3	.9
Other professional services.....	3.0	2.3	.7	.6
Public Administration.....	20.7	22.5	27.7	17.5
Subsistence.....	.1	0.0	.6	1.0

Source: U.S. Bureau of the Census Decennial Reports

One of the more significant findings of the 1980 census was the large increase in the female labor force (as noted in Chapter 10). Again, the number of employed females more than doubled during the previous decade, from 6,967 in 1970 to 13,698 in 1980 (Table 11.3). The largest industry category for females remained professional and related services at 32 percent. The second largest industry was retail trade which accounted for 27 percent. Other categories remained basically the same from 1970 with only minor fluctuations.

The male-female differences can be seen even more starkly in Table 11.4, which shows the percent female for each of the categories included. Also, Table 11.5 clarifies the sexual differences further by providing industry data by sex.

The percentage of employed females by industry in 1980 increased to 42 percent from 31 percent in 1970 (Table 11.4). The so-called "traditional" industries for women - health and educational services - remained fairly high with 72 percent and 71 percent, respectively. In other words, about 7 out of every 10 workers in these subcategories were females. On the other hand, proportions of women in non-traditional industries for women such as business and repair services increased significantly from 6 percent in 1970 to 22 percent in 1980. Also, most of the other industries accounted for a higher percentage of women, which is indicative of women's increasing participation in Guam's economy.

Table 11.3. Industry: Females, 1950 to 1980

Industry	1980	1970	1960	1950
Employed females, 16 + yrs....	13,698	6,867	3,528	3,087
Percent.....	100.0	100.0	100.0	100.0
Agriculture, fishing, mining.....	.4	.3	1.8	2.5
Construction.....	1.6	1.9	.8	4.0
Manufacturing.....	2.2	3.3	2.1	2.5
Nondurable goods.....	1.7	1.2	1.6	1.4
Durable goods.....	.4	2.1	.4	1.0
Transportation.....	2.7	2.0	1.2	.6
Communications.....	2.1	1.8	1.0	.8
Wholesale trade.....	1.5	1.0	1.2	1.4
Retail trade.....	27.0	24.1	27.4	23.7
Finance, insurance & real estate...	7.0	4.6	2.4	1.2
Business and repair.....	1.9	1.3	.3	.4
Personal entertainment and recreation services.....	8.1	7.1	13.7	17.4
Professional and related services..	31.5	35.3	28.5	18.1
Health.....	6.9	8.2	6.9	6.7
Educational services.....	20.3	23.0	18.9	10.2
Other professional services.....	4.3	4.1	2.7	1.3
Public Administration.....	13.9	17.3	18.8	26.8
Subsistence.....	.0	0.0	.8	.6

Source: U.S. Bureau of the Census Decennial Reports

Without crossing the industry data with occupational data, it is difficult to really assess the vertical mobility females were achieving in the economy (Table 11.5). For example, although 62 percent of the category of finance, insurance, and real estate were women, many of these could have been bank clerks rather than in management positions. Besides the professional and related services, retail trade and personal, entertainment, and recreational services both accounted for higher female employment percentages with 56 percent and 53 percent, respectively.

Table 11.4. Percentage of Employed Females by Industry: 1950 to 1980

Industry	1980	1970	1960	1950
Employed females, 16 + yrs.....	41.9	31.1	20.5	16.5
Agriculture, fishing, mining.....	17.6	11.2	13.9	6.4
Construction.....	7.1	3.6	.5	2.0
Manufacturing.....	18.5	16.3	14.5	19.0
Nondurable goods.....	29.4	20.5	20.1	17.5
Durable goods.....	7.3	14.6	7.0	20.1
Transportation.....	19.6	12.4	4.2	.7
Communications.....	20.0	14.8	21.4	10.5
Wholesale trade.....	26.9	20.8	15.2	17.6
Retail trade.....	56.5	49.2	47.5	45.9
Finance, insurance & real estate....	61.5	58.6	55.6	43.5
Business and repair.....	22.5	6.2	5.8	3.6
Personal entertainment and recreation services.....	52.8	57.0	54.3	50.3
Professional and related services...	67.4	64.0	60.2	59.4
Health.....	71.5	65.4	49.2	57.7
Educational services.....	70.8	69.1	67.6	70.2
Other professional services.....	51.1	44.0	49.7	28.5
Public Administration.....	32.6	25.7	14.9	23.3
Subsistence.....	14.3	(NA)	27.6	10.9

Source: U.S. Bureau of the Census Decennial Reports

Table 11.6 (and Figure 11.2) presents employment figures for the Guam-born labor force and for those not born on Guam by industry, as well as percentages of Guam-born employees in each of the categories. The industry that had the highest percentage of Guam-born was communications, with 65 percent being born on Guam. Public administration had the second largest percentage of Guam-born as its labor force. Public administration was also the largest employer of Guam-born with 28 percent of Guam-born labor force being employed in this category. In other words, more than 1 out of every 4 Guam-born workers held a job in public administration. On the other hand, only about 1 out of every 20 Guam-born held a job in construction, and only 22 percent of the construction labor force was Guam-born, indicating the increasing H-2 foreign labor force penetrating into Guam's construction industry.

Table 11.5. Industry by Sex: 1980

Industry	Numbers			Percent			Percent Fmle
	Total	Male	Fmle	Total	Male	Fmle	
Employed 16 yrs and over	32,692	18,994	13,698	100.0	100.0	100.0	41.9
Ag., fishing, mining	306	252	54	.9	1.3	.4	17.6
Construction	3,025	2,810	215	9.3	14.8	1.6	7.1
Manufacturing	1,606	1,309	297	4.9	6.9	2.2	18.5
Nondurable goods	813	574	239	2.5	3.0	1.7	29.4
Durable goods	793	735	58	2.4	3.9	.4	7.3
Transportation	1,884	1,515	369	5.8	8.0	2.7	19.6
Communications	1,449	1,159	290	4.4	6.1	2.1	20.0
Wholesale trade	754	551	203	2.3	2.9	1.5	26.9
Retail trade	6,545	2,844	3,701	20.0	15.0	27.0	56.5
Finance, ins. & real est	1,565	602	963	4.8	3.2	7.0	61.5
Business and repair	1,185	918	267	3.6	4.8	1.9	22.5
Personal entertainment and recreation services	2,106	995	1,111	6.4	5.2	8.1	52.8
Profess. and related serv.	6,403	2,087	4,316	19.6	11.0	31.5	67.4
Health	1,332	380	952	4.1	2.0	6.9	71.5
Educational services	3,919	1,144	2,775	12.0	6.0	20.3	70.8
Other profess. services	1,152	563	589	3.5	3.0	4.3	51.1
Public Administration	5,850	3,940	1,910	17.9	20.7	13.9	32.6
Subsistence	14	12	2	.0	.1	.0	14.3

Source: U.S. Bureau of the Census 1980 PC80-1-C/D54, Table 23

Figure 11.2 Industry by Birthplace: 1980
(Percent Born in Guam)

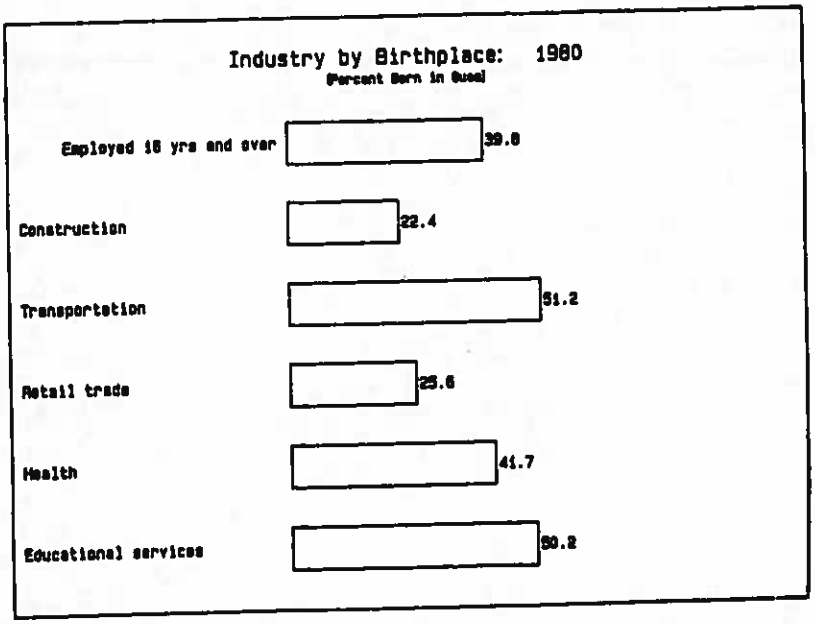


Table 11.6. Industry by Birthplace: 1980

Industry	Birthplace			Percent			Percent Guam Born
	Total	Guam	Not Guam	Total	Guam	Not Guam	
Emplyd 16 yrs and over..	32,682	13,001	19,681	100.0	100.0	100.0	39.8
Ag., fishing, mining.....	306	96	210	.9	.7	1.1	31.4
Construction.....	3,025	678	2,347	9.3	5.2	11.9	22.4
Manufacturing.....	1,606	534	1,072	4.9	4.1	5.4	33.3
Nondurable goods.....	813	206	607	2.5	1.6	3.1	25.3
Durable goods.....	793	328	465	2.4	2.5	2.4	41.4
Transportation.....	1,884	965	919	5.8	7.4	4.7	51.2
Communications.....	1,449	944	505	4.4	7.3	2.6	65.1
Wholesale trade.....	754	217	537	2.3	1.7	2.7	28.8
Retail trade.....	6,545	1,674	4,871	20.0	12.9	24.7	25.6
Finance, ins & real est...	1,565	608	957	4.8	4.7	4.9	38.8
Business and repair.....	1,185	385	800	3.6	3.0	4.1	32.5
Personal entertainment and recreation services.....	2,106	386	1,720	6.4	3.0	8.7	18.3
Profess. and related serv.	6,403	2,891	3,512	19.6	22.2	17.8	45.2
Health.....	1,332	556	776	4.1	4.3	3.9	41.7
Educational services....	3,919	1,967	1,952	12.0	15.1	9.9	50.2
Other profess. services.	1,152	368	784	3.5	2.8	4.0	31.9
Public Administration.....	5,840	3,613	2,227	17.9	27.8	11.3	61.9
Subsistence.....	14	10	4	.0	.1	.0	71.4

Source: U.S. Bureau of the Census 1980 PC80-1-C/D54, Table 28

The data presented in Table 11.7 show the distribution of industry for Chamorros and Filipinos, expanding somewhat on data shown in Chapter 8 on ethnicity. In obtaining these data, persons who responded as Chamorro only or Filipino only were combined with those responding "Chamorro and other group" or "Filipino and other group". Persons who indicated they were Chamorro-Filipino were therefore counted as both Chamorro and Filipino.

There were 13,498 Chamorro workers and 9,506 Filipino workers in 1980. Chamorros made up 41 percent of all workers on Guam. The largest percentage of Chamorros were in public administration (27 percent) and in professional and related services (22 percent). Fully 14 percent of the Chamorros were in communications and transportation, and 13 percent were in retail trade. Only 5 percent were in construction.

On the other hand, more than half of all Filipino workers were in just three categories - 1 out of 4 in retail trade, 1 out of 6 in construction, and 1 out of 9 in professional services. Another one-fourth of the Filipinos were in three categories - personal, entertainment, and recreational services (10 percent), public administration (also 10 percent), and manufacturing (7 percent).

The last column in Table 11.7 shows the proportion of workers in each industry that were Chamorro in 1980. Although slightly more than 40 percent of all workers were Chamorro, 63 percent of all persons in public administration were

Chamorro, as were 59 percent in communications and transportation, and 46 percent of persons in professional services. At the opposite end, only 19 percent of employed persons in personal, entertainment, and recreation, and 24 percent of those in construction were Chamorro.

Table 11.7. Industry by Ethnicity: 1980

Industry	Ethnicity			Percent			Percent
	Total	Chamorro	Filipino	Total	Chamorro	Filipino	Chamorro
Emplyd 16 yrs and over...	32692	13498	9506	100.0	100.0	100.0	41.3
Ag., fishing, forestry.....	281	99	105	.9	.7	1.1	35.2
Construction.....	3050	726	1535	9.3	5.4	16.1	23.8
Manufacturing.....	1606	558	639	4.9	4.1	6.7	34.7
Communications, transport....	3333	1962	581	10.2	14.5	6.1	58.9
Wholesale trade.....	754	237	233	2.3	1.8	2.5	31.4
Retail trade.....	6545	1802	2505	20.0	13.4	26.4	27.5
Finance, ins & real estate...	1565	654	444	4.8	4.8	4.7	41.8
Business and repair services.	1185	425	359	3.6	3.1	3.8	35.9
Personal, ent, recreation....	2106	398	1002	6.4	2.9	10.5	18.9
Profess and related services.	6403	2944	1127	19.6	21.8	11.9	46.0
Public Administration.....	5850	3682	975	17.9	27.3	10.3	62.9
Subsistence.....	14	11	1	.0	.1	.0	78.6

Source: U.S. Bureau of the Census 1980 PC80-1-C/D54, Table 43

Table 11.8 distingulshes full Chamorros from part-Chamorros. The total number of full Chamorro employees was 95 percent of the total Chamorro labor force. The largest percentage of full Chamorros was in public administration (28 percent). The second largest percentage was in professional and related services with 22 percent of the total full Chamorros working in this category. On the other hand, the largest percentage of the total part-Chamorro employees was in retail trade (22 percent). The second largest percentage was in public administration. The last column in the table shows the percentage of each category that was full Chamorro. For example, 98 percent of agriculture, fishing, and forestry workers were full Chamorros. Both professional and related services, and public administration had 97 percent of the Chamorros claiming only that ethnicity.

There was also a relationship between education and industry (Table 11.9, Figure 11.3). Altogether, 72 percent of employed persons 25 years and over were high school graduates, as were 68 percent of males and 77 percent of the females. Since large-scale female labor force participation is a recent phenomenon, the percentage for females was higher because they are probably younger, and therefore more were likely to have graduated from high school.

Table 11.8. Industry of Full and Part-Chamorros: 1980

Industry	Chamorros			Percent			Percent Full
	Total	Full	Part	Total	Full	Part	
Emplyd 16 yrs and over...	13498	12878	620	100.0	100.0	100.0	95.4
Ag., fishing, forestry.....	99	97	2	.7	.8	.3	98.0
Construction.....	726	695	31	5.4	5.4	5.0	95.7
Manufacturing.....	558	532	26	4.1	4.1	4.2	95.3
Communications, transport...	1962	1894	68	14.5	14.7	11.0	96.5
Wholesale trade.....	237	216	21	1.8	1.7	3.4	91.1
Retail trade.....	1802	1665	137	13.4	12.9	22.1	92.4
Finance, ins & real estate..	654	610	44	4.8	4.7	7.1	93.3
Business and repair services	425	399	26	3.1	3.1	4.2	93.9
Personal, ent., recreation..	398	360	38	2.9	2.8	6.1	90.5
Profess and related services	2944	2843	101	21.8	22.1	16.3	96.6
Public Administration.....	3682	3556	126	27.3	27.6	20.3	96.6
Subsistence.....	11	11	0	.1	.1	0.0	100.0

Source: U.S. Bureau of the Census 1980 PC80-1-C/D54, Table 43

About 9 out of every 10 persons employed in finance, insurance, and real estate, and professional and related services were high school graduates (Table 11.9). Also, 82 percent of those in wholesale trade and 72 percent of public administrators were high school graduates. Conversely, only about half of those employed in agriculture, fishing, and forestry, and about 3 in every 5 construction workers were high school graduates.

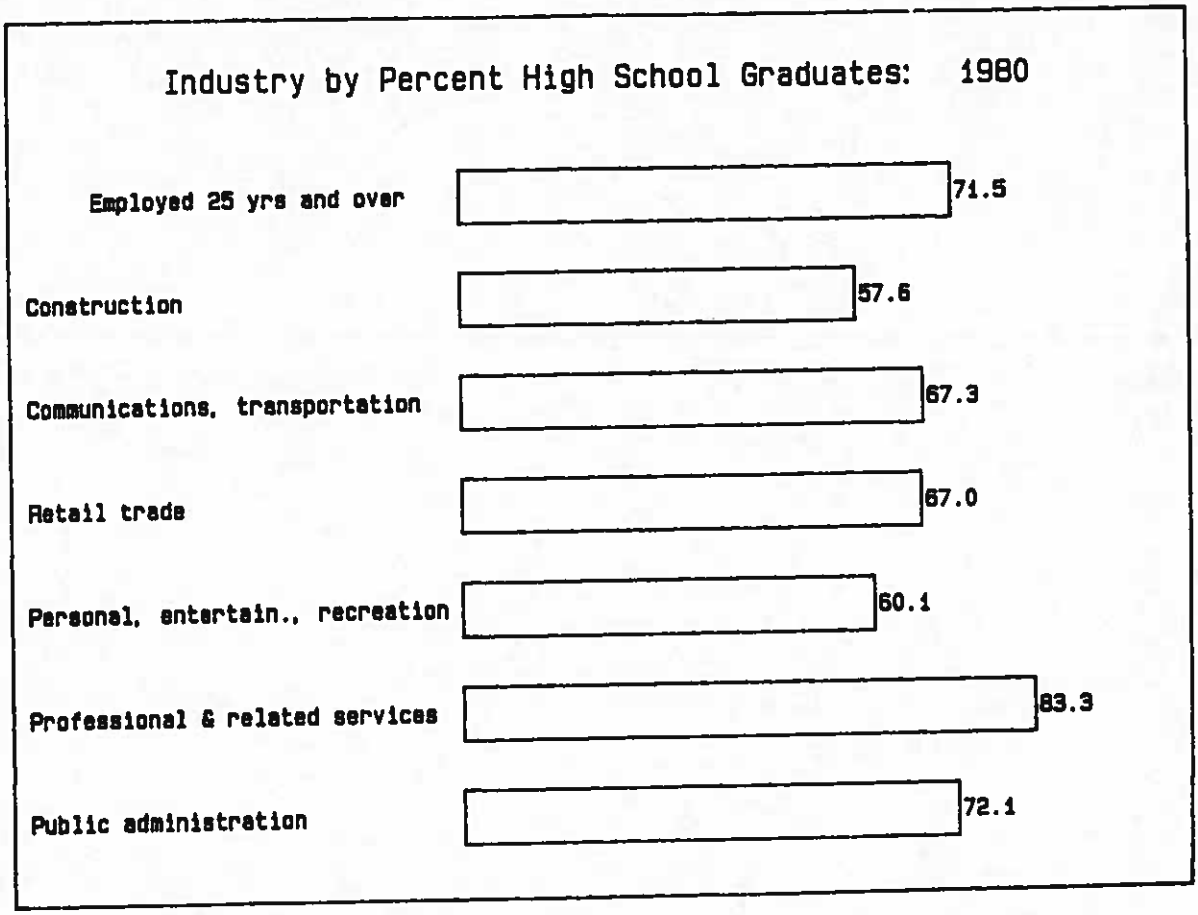
There were differences in educational attainment by sex. Fully 87 percent of the males working in finance, insurance, and real estate, compared to 92 percent of the females, were high school graduates. Generally, with a few exceptions in personal, entertainment, and recreation, and retail trade, females were more highly educated than males.

Table 11.9. Industry by Percent High School Graduates by Sex: 1980

Industry	Numbers			Percent HS Graduate		
	Total	Male	Fmle	Total	Male	Fmle
Emplyd 25 yrs and over..	26,347	15,835	10,512	71.5	67.6	77.3
Ag, fishing, forestry.....	225	188	37	53.8	51.1	67.6
Construction.....	2,694	2,537	157	57.6	56.1	82.2
Manufacturing.....	1,343	1,124	219	69.5	67.2	81.3
Communications, transport..	2,802	2,310	492	67.3	62.9	87.6
Wholesale trade.....	581	441	140	82.1	80.7	86.4
Retail trade.....	4,711	2,040	2,671	67.0	68.3	66.0
Finance, ins & real estate.	1,188	517	671	90.2	87.3	92.4
Business and repair.....	891	714	177	70.5	68.2	79.7
Personal, ent, recreation..	1,547	701	846	60.1	68.0	53.4
Professional and related...	5,450	1,786	3,664	83.3	81.6	84.1
Public Administration.....	4,906	3,470	1,436	72.1	67.9	82.3
Subsistence.....	9	7	2	33.3	28.6	50.0

Source: U.S. Bureau of the Census 1980 PC80-1-C/D54, Table 44

Figure 11.3 Industry by Percent High School Graduates: 1980



In 1980, among the 32,175 employed persons 16 to 64 years of age, 8,448 had had vocational training (about 1 out of every 4)(Table 11.10 and Figure 11.4). About 34 percent of public administrators had had this training, but only 18 percent of those in personal, entertainment, and recreation, and 19 percent of those in retail trade.

Of all the persons who were trained in some kind of vocational education program, 20 percent were in retail trade in 1980, and another 20 percent were in professional and related services.

Table 11.10. Industry by Persons Completing Vocational Training: 1980

Industry	Total	With Vocational Training	Percent of all trained	Percent of this Industry
Emplyd 16 to 64 years old....	32,175	8,448	100.0	26.3
Ag, fishing, forestry.....	273	60	.8	22.0
Construction.....	3,006	887	9.3	29.5
Manufacturing.....	1,587	530	4.9	33.4
Communications, transport.....	3,298	1,012	10.3	30.7
Wholesale trade.....	748	163	2.3	21.8
Retail trade.....	6,436	1,236	20.0	19.2
Finance, ins & real estate.....	1,543	439	4.8	28.5
Business and repair services....	1,165	360	3.6	30.9
Personal, ent, recreation.....	2,046	359	6.4	17.5
Profess and related services....	6,318	1,432	19.6	22.7
Public Administration.....	5,746	1,968	17.9	34.2
Subsistence.....	9	2	.0	22.2

Source: U.S. Bureau of the Census 1980 PC80-1-C/D54, Table 44

Figure 11.4 Industry by Persons Completing Vocational Training: 1980
(Percent)

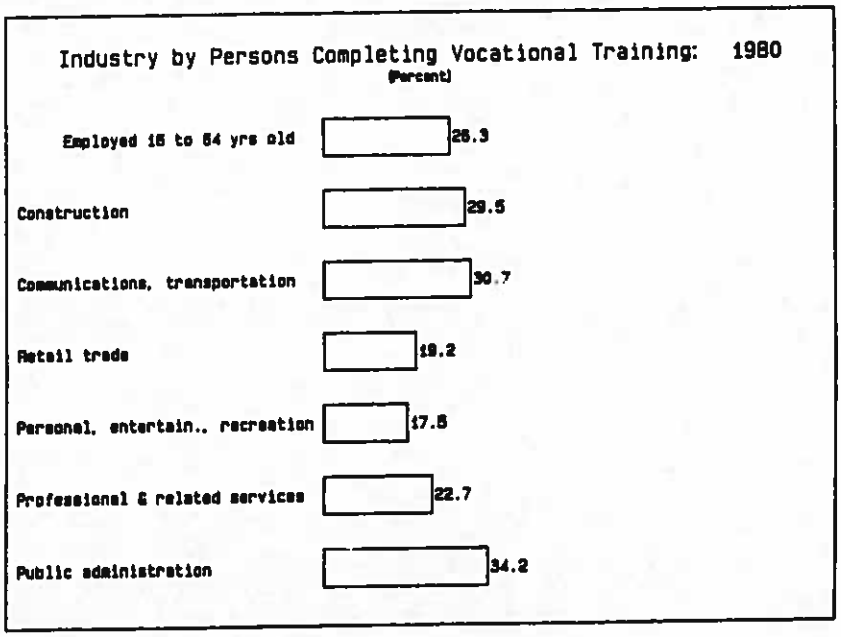
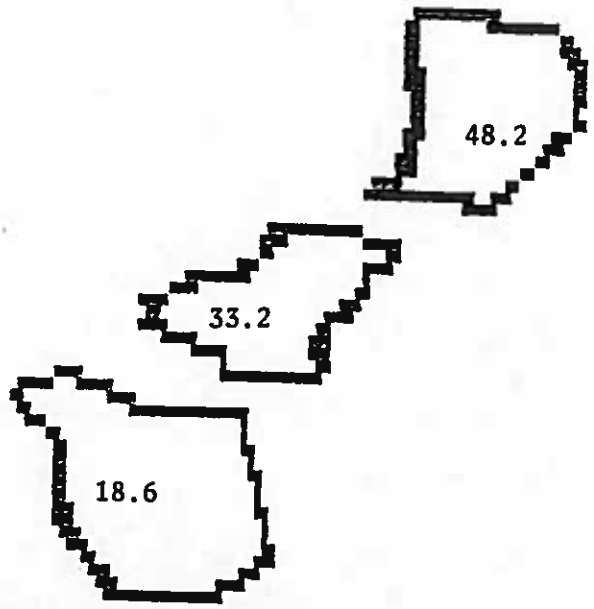


Table 11.11 shows the employment figures by industry and region. Out of the total labor force 16 years and over, 15,747 workers came from the Northern region, 10,851 from the Central region, and 6,094 from the Southern region. The three largest industry categories for the North were retail trade (23 percent of the employed workers living there), professional and related services (16 percent), and public administration (13 percent). The three largest for Central were in professional and related services (22 percent), public administration (21 percent), and retail trade (18 percent). The largest categories for Southern region workers were public administration (24 percent), professional and related services (24 percent), and retail trade (16 percent).



Employment by Region

Table 11.11. Industry by Region: 1980

Industry	Total	North	Central	South
Employed 16 yrs and over.....	32,692	15,747	10,851	6,094
Percent.....	100.0	100.0	100.0	100.0
Agriculture, fishing, mining.....	.9	.8	1.0	1.2
Construction.....	9.3	11.1	8.4	5.8
Manufacturing.....	4.9	4.6	4.7	5.9
Nondurable goods.....	2.5	2.7	2.5	1.8
Durable goods.....	2.4	1.9	2.2	4.1
Transportation.....	5.8	5.6	5.2	7.4
Communications.....	4.4	3.8	4.9	5.1
Wholesale trade.....	2.3	2.8	2.2	1.3
Retail trade.....	20.0	23.3	17.5	16.1
Finance, insurance & real estate..	4.8	5.0	5.4	3.3
Business and repair.....	3.6	4.0	3.6	2.6
Personal, entertain., recreational	6.4	9.5	4.1	2.9
Professional and related services.	19.6	16.5	21.7	23.8
Health.....	4.1	4.1	4.3	3.6
Educational services.....	12.0	9.2	13.5	16.6
Other professional services.....	3.5	3.2	3.9	3.7
Public Administration.....	17.9	13.1	21.1	24.5
Subsistence.....	.0	.0	.1	.0

Source: U.S. Bureau of the Census 1980 Summary Tape File 3A, Table 65

Table 11.12 provides percentage breakdowns of the total workers in each industry category into the three regions. On average, the Northern region held roughly half the workers in each category in 1980. The region that held the second largest proportion of the jobs was the Central area. The Southern region provided less than 1 out of 5 workers on Guam. This labor contribution order in

all categories was fairly consistent, with exceptions in the educational services category and public administration, where Central region was the largest contributor of workers in these categories.

Table 11.12. Industry by Percent Region: 1980

Industry	Total	North	Central	South
Employed 16 yrs and over.....	100.0	48.2	33.2	18.6
Agriculture, fishing, mining.....	100.0	39.9	35.3	24.8
Construction.....	100.0	58.0	30.3	11.7
Manufacturing.....	100.0	45.6	31.9	22.5
Nondurable goods.....	100.0	53.0	33.3	13.7
Durable goods.....	100.0	38.0	30.5	31.5
Transportation.....	100.0	46.4	29.8	23.8
Communications.....	100.0	41.5	37.1	21.5
Wholesale trade.....	100.0	57.8	31.8	10.3
Retail trade.....	100.0	56.0	29.1	15.0
Finance, insurance & real estate...	100.0	49.8	37.3	12.9
Business and repair.....	100.0	53.1	33.3	13.6
Personal entertainment and recreation services.....	100.0	70.7	20.9	8.4
Professional and related services.	100.0	40.6	36.8	22.7
Health.....	100.0	48.6	35.1	16.4
Educational services.....	100.0	36.8	37.5	25.7
Other professional services.....	100.0	44.2	36.3	19.5
Public Administration.....	100.0	35.3	39.2	25.5
Subsistence.....	100.0	21.4	57.1	21.4

Source: U.S. Bureau of the Census 1980 Summary Tape File 3A, Table 65

OCCUPATION CHARACTERISTICS

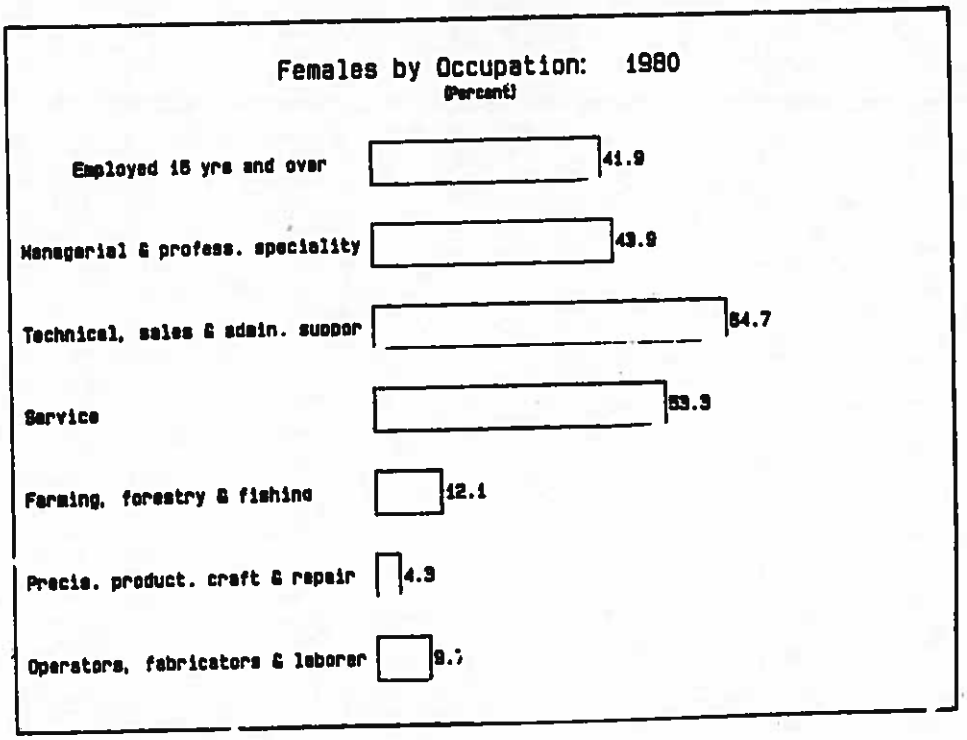
Of the total number of employed persons 16 years and over, the occupation category that had the highest percentage was technical, sales, and administrative support, with 31 percent. The second largest category was the managerial and professional occupations with 25 percent of the labor force working in this category (Table 11.13 and Figure 11.5). When we calculate the percentages for males and females separately, the figures change significantly. For males, the two largest occupation categories were precision production, craft and repair services (25 percent) and professional services (24 percent). For female workers, the two highest percentages of workers were in technical, sales, and administrative support (48 percent) and managerial and professional services (24 percent). The last column in Table 11.13 shows the percentages of females for each occupation category. The categories that had the highest percentages of female workers were private household (92 percent), administrative support (71 percent), and professional services (58 percent). As expected, categories such as protective services and precision craft production, craft and repair services, and transportation and material movers had the lowest percentages of females.

Table 11.13. Occupation by Sex: 1980

Occupation	Numbers			Percent			Percent
	Total	Males	Females	Total	Males	Females	Females
Employed 16 yrs and over	32692	18994	13698	100.0	100.0	100	41.9
Managerial and profess special.	8146	4570	3576	24.9	24.1	26.1	43.9
Executive, administrative	3939	2807	1132	12.0	14.8	8.3	28.7
Professional	4207	1763	2444	12.9	9.3	17.8	58.1
Tech,sales and admin. support	10200	3597	6603	31.2	18.9	48.2	64.7
Technicians	1099	807	292	3.4	4.2	2.1	26.6
Sales	3299	1099	2200	10.1	5.8	16.1	66.7
Administrative support	5802	1691	4111	17.7	8.9	30.0	70.9
Service	5476	2556	2920	16.8	13.5	21.3	53.3
Private household	61	5	56	.2	.0	.4	91.8
Protective service	938	855	83	2.9	4.5	.6	8.8
Other service	4477	1696	2781	13.7	8.9	20.3	62.1
Farming, forestry and fishing	381	335	46	1.2	1.8	.3	12.1
Precisn product, craft & repair	5030	4812	218	15.4	25.3	1.6	4.3
Oper., fabricators, and laborer	3445	3112	333	10.5	16.4	2.4	9.7
Machine operator, assembler	712	585	127	2.2	3.1	.9	17.8
Transport and material move	1377	1339	38	4.2	7.0	.3	2.8
Handlrs, equip cleaners, labr	1356	1188	168	4.1	6.3	1.2	12.4
Subsistence activity	14	12	2	.0	.1	.0	14.3

Source: U.S. Bureau of the Census 1980 PC80-1-C/D54, Table 23

Figure 11.5 Females by Occupation: 1980
(Percent)



Altogether 40 percent of all employed persons were born on Guam. Of those born on Guam, 33 percent were working in technical, sales, and administrative support positions, and 20 percent were in managerial and professional positions (Table 11.14 and Figure 11.6). Of the "foreign born" workers, those not born on Guam, 30 percent were working in technical, sales, administrative support positions, and 28 percent in managerial and professional positions. There was not much difference in the percentages and the types of occupations between Guam-born and foreign born. Almost 7 out of 10 protective service workers were Guam-born, but only 16 percent of private household service workers were Guam-born.

Figure 11.6 Occupation by Birthplace: 1980
(Percent Born in Guam)

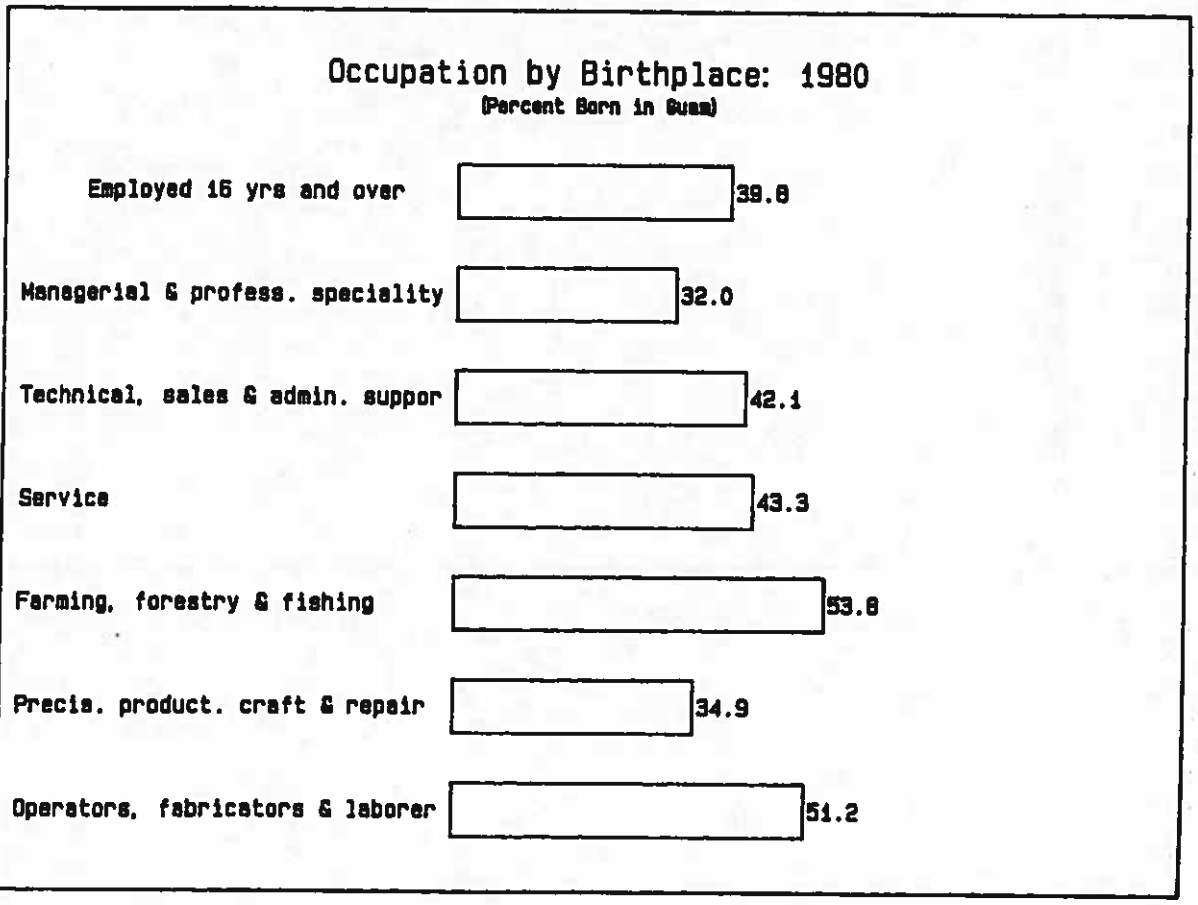
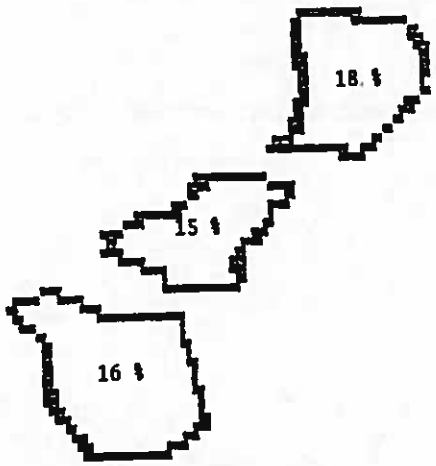


Table 11.14. Occupation by Birthplace: 1980

Occupation	Numbers			Percent			Percent Guam Born
	Total	Guam	Not Guam	Total	Guam	Not Guam	
Emplyd 16 yrs and over..	32,692	13,001	19,691	100.0	100.0	100.0	39.8
Managerial and profess....	8,146	2,605	5,541	24.9	20.0	28.1	32.0
Exec, administrative....	3,939	1,461	2,478	12.0	11.2	12.6	37.1
Professional.....	4,207	1,144	3,063	12.9	8.8	15.6	27.2
Tech, sales, admin. supprt	10,200	4,293	5,907	31.2	33.0	30.0	42.1
Technicians.....	1,099	365	734	3.4	2.8	3.7	33.2
Sales.....	3,299	868	2,431	10.1	6.7	12.3	26.3
Administrative support..	5,802	3,060	2,742	17.7	23.5	13.9	52.7
Service.....	5,476	2,371	3,105	16.8	18.2	15.8	43.3
Private household.....	61	10	51	.2	.1	.3	16.4
Protective service.....	938	640	298	2.9	4.9	1.5	68.2
Other service.....	4,477	1,721	2,756	13.7	13.2	14.0	38.4
Farming, frstry and fishing.	381	205	176	1.2	1.6	.9	53.8
Precision production craft.	5,030	1,754	3,276	15.4	13.5	16.6	34.9
Opratrs, fabricators, lbrs.	3,445	1,763	1,682	10.5	13.6	8.5	51.2
Machine optr, assembler..	712	276	436	2.2	2.1	2.2	38.8
Transport, material move.	1,377	798	579	4.2	6.1	2.9	58.0
Handlrs, equip cleaners,.	1,356	689	667	4.1	5.3	3.4	50.8
Subsistence activity.....	14	10	4	.0	.1	.0	71.4

Source: U.S. Bureau of the Census 1980 PC80-1-C/D54, Table 28

Table 11.15 shows the employment figures by occupation and region on Guam. The three largest distributions of Northern region workers were in technical, sales, and administrative support positions (31 percent), managerial and professional positions (24 percent), and services positions (18 percent). The largest categories of Central region workers were in technical, sales, and administrative support (32 percent), managerial and professional (27 percent), and services and precision production, craft and repair positions (both 15 percent). Lastly, the Southern region workers were largely distributed in technical, sales, and administrative support (31 percent), managerial and professional (23 percent), and services (16 percent). In general, significantly large discrepancies did not exist between the regions in 1980.



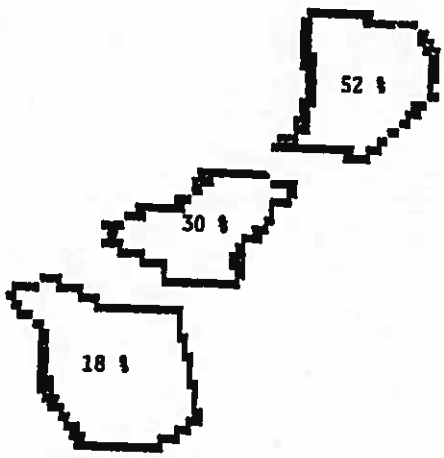
Percent in Service Occupations of All Occupations

Table 11.15. Occupation by Region: 1980

Occupation	Total	North	Central	South
Employed 16 yrs and over.....	32,692	15,747	10,851	6,094
Percent.....	100.0	100.0	100.0	100.0
Managerial and profess special....	24.9	24.3	26.9	22.9
Executive, administrative.....	12.0	12.1	13.5	9.2
Professional.....	12.9	12.2	13.4	13.7
Technical, sales and admin. support	31.2	30.6	32.0	31.3
Technicians.....	3.4	3.2	3.7	3.2
Sales.....	10.1	11.9	8.8	7.8
Administrative support.....	17.7	15.6	19.4	20.3
Service.....	16.8	18.1	15.0	16.3
Private household.....	.2	.2	.2	.1
Protective service.....	2.9	2.3	2.8	4.4
Other service.....	13.7	15.5	12.1	11.9
Farming, forestry and fishing.....	1.2	.9	1.2	1.8
Precision production craft & repair	15.4	16.2	15.0	13.9
Operators, fabricators, and laborer.	10.5	9.8	9.8	13.8
Machine operator, assembler.....	2.2	2.2	1.9	2.4
Transportation and material move..	4.2	3.7	3.9	6.2
Handlers, equip cleaners, laborer.	4.1	3.9	4.0	5.1
Subsistence activity.....	.0	.0	.1	.0

Source: U.S. Bureau of the Census 1980 Summary Tape File 3A, Table 66

Table 11.16 provides percentage breakdowns of the total workers in each occupation category for the three regions. Again, on average, the Northern region workers held about half of all occupations on Guam. The Central region remained second. With exception of subsistence activity, where the Central region had the highest percent, the order of labor contribution size was consistent throughout each category.



Percent in Service Occupations

Table 11.16. Occupation by Percent Region: 1980

Occupation	Total	North	Central	South
Employed 16 yrs and over.....	100.0	48.2	33.2	18.6
Managerial and professional special.	100.0	47.0	35.9	17.1
Executive, administrative.....	100.0	48.5	37.3	14.2
Professional.....	100.0	45.6	34.5	19.9
Technical, sales and admin. support.	100.0	47.3	34.0	18.7
Technicians.....	100.0	45.3	36.9	17.7
Sales.....	100.0	56.7	28.9	14.4
Administrative support.....	100.0	42.3	36.4	21.3
Service.....	100.0	52.0	29.8	18.2
Private household.....	100.0	57.4	34.4	8.2
Protective service.....	100.0	39.3	32.3	28.4
Other service.....	100.0	54.6	29.2	16.1
Farming, forestry and fishing.....	100.0	37.5	33.3	29.1
Precision production craft & repair.	100.0	50.8	32.4	16.8
Operators, fabricators, and laborer.	100.0	44.8	30.8	24.3
Machine operator, assembler.....	100.0	49.4	29.6	20.9
Transportation and material move..	100.0	42.2	30.5	27.3
Handlers, equip cleaners, laborer.	100.0	45.1	31.8	23.1
Subsistence activity.....	100.0	21.4	57.1	21.4

Source: U.S. Bureau of the Census 1980 Summary Tape File 3A, Table 66

SUMMARY

The employment by industry/occupation data in the preceding tables show significant increases in the private sector employment. Of the increases, retail and wholesale categories experienced the most pronounced growth. Although construction employment figures showed a significant decrease since 1970, there were many major construction projects planned for the 1980's (especially in hotel construction), and thus the construction figure has increased.

Female employment has steadily increased in the past 30 years. In almost all the industry categories, female employment figures show steady increases. Although it is certain that the female labor force is holding a larger portion of the Guam job market, when looking at the occupation by sex, the numbers still suggest that the quality of the jobs held by the increasing numbers of women workers may be lower than jobs held by their male counterparts. The percentage of the labor force employed in public administration has steadily decreased over the years.

Retail trade and wholesale trade have shown steady increases, and should keep the same trends in the years to come. Guam's transition to a commercial economy (compared to a public sector economy) is evident in the figures obtained in the 1980 census. Also, Guam's economy is steadily increasing its service-oriented industry base, and should be tailoring its education/training programs to prepare the labor force for such jobs. Furthermore, females on Guam have good potential to share an equal footing in Guam's employment opportunities. Although women

still tend to lag in vertical mobility in certain industries, with careful encouragement this too should change in the future.

CLASS OF WORKER CHARACTERISTICS

Class of worker data since 1950 show a shift in employment from private to government employment, then back to private (Table 11.17). In 1950, 55 percent of all those 16 years and older who were employed were private wage and salary earners, 36 percent were in government, and 8 percent were self-employed. By 1970, private employment had fallen to 46 percent of workers and government employment rose to 52 percent. Those who were self-employed were only 2 percent of workers. By 1980, however, private employment and self-employment had increased while the proportion of those in government work had fallen.

Table 11.17. Class of Worker: 1950 to 1980

Class of Worker	1980	1970	1960	1950
Employed, 16+ yrs.....	32,692	22,112	17,208	18,671
Percent.....	100.0	100.0	100.0	100.0
Private wage and salary.	50.7	45.8	52.4	55.1
Government.....	46.1	52.0	42.4	35.8
Federal government....	18.4	27.8	(NA)	(NA)
Local government.....	27.7	24.3	(NA)	(NA)
Self-employed.....	3.1	1.9	4.6	7.8
Unpaid family worker....	.1	.2	.5	1.3
Subsistence.....	.0	0.0	0.0	0.0

Source: U.S. Bureau of the Census Decennial Reports

In 1950, 58 percent of employed males over the age of 16 worked for private companies, 8 percent were self-employed, and 33 percent were government workers (Table 11.18). In 1970, government employment reached its peak of 49 percent of male workers while private employment and self-employment were at their lowest levels. By 1980, the proportion of those self-employed had nearly doubled, private employment increased, and government employment decreased.

Table 11.18 Class of Male Worker: 1950 to 1980

Class of Worker	1980	1970	1960	1950
Employed males, 16+...	18,994	15,245	13,680	15,584
Percent.....	100.0	100.0	100.0	100.0
Private wage and salary.	50.6	48.5	54.5	58.3
Government.....	45.7	49.4	40.9	32.6
Federal government....	21.5	29.8	0.0	0.0
Local government.....	24.3	19.6	0.0	0.0
Self-employed.....	3.6	2.0	4.3	8.0
Unpaid family worker....	.0	.1	.3	1.1
Subsistence.....	.1	0.0	0.0	0.0

Source: U.S. Bureau of the Census Decennial Reports

Females were employed mainly as government workers in 1950 (52 percent), followed by private companies (39 percent) and self-employment (7 percent) (Table 11.19). Their pattern of decreasing private employment and increasing government work until 1970, followed by a reverse in 1980, closely matched that of male workers.

Table 11.19 Class of Female Worker: 1950 to 1980

Class of Worker	1980	1970	1960	1950
Employed females, 16+.	13,698	6,867	3,528	3,087
Percent.....	100.0	100.0	100.0	100.0
Private wage and salary.	50.9	39.9	44.4	38.8
Government.....	46.5	57.9	48.3	52.4
Federal government....	14.1	23.2	(NA)	(NA)
Local government.....	32.5	34.7	(NA)	(NA)
Self-employed.....	2.5	1.9	5.8	6.9
Unpaid family worker....	.1	.4	1.4	1.8
Subsistence.....	.0	0.0	0.0	0.0

Source: U.S. Bureau of the Census Decennial Reports

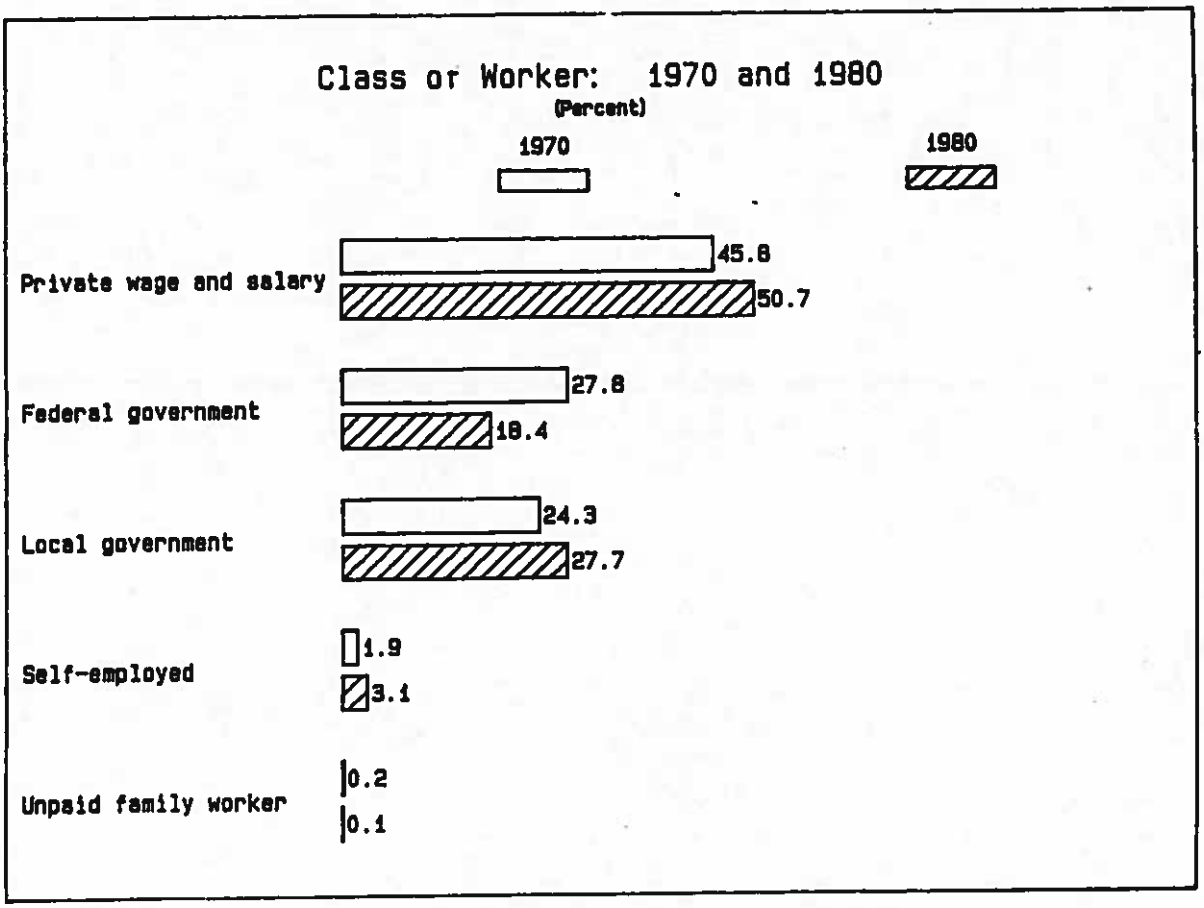
Tables 11.20 through 11.22 highlight the reversal in type of employment mentioned earlier. There was a 48 percent increase between 1970 and 1980 in numbers of those 16 years and older and employed (Table 11.20 and Figure 11.7). By class, the number of private workers had increased by 64 percent, local government workers by 69 percent, and self-employed workers by 137 percent. The number of those working for the Federal government decreased by 2 percent. Unpaid family workers showed the largest drop, with a 35 percent decrease.

Table 11.20 Change in Class of Worker: 1970 and 1980

Class of Worker	Number 1980	Number 1970	Percent Change 1970 to 1980	Percent 1980	Percent 1970
Employed, 16+ yrs.....	32692	22112	47.8	100.0	100.0
Private wage and salary.	16575	10135	63.5	50.7	45.8
Federal government.....	6001	6141	-2.3	18.4	27.8
Local government.....	9056	5365	68.8	27.7	24.3
Self-employed.....	1020	431	136.6	3.1	1.9
Unpaid family worker....	26	40	-35.0	.1	.2
Subsistence.....	14	(NA)	(NA)	.0	(NA)

Source: U.S. Bureau of the Census PC80-1-C/D54 1980 Table 23;
PC(1)-B54 1970 Table 15

Figure 11.7 Class of Worker: 1970 and 1980
(Percent)



The number of employed males increased by 25 percent between 1970 and 1980, with the largest gains in the areas of self-employment and local government (Table 11.21). The greatest decreases were in unpaid family workers and Federal government employees.

Table 11.21. Change in Class of Male Worker: 1970 and 1980

Class of Worker	Number		Percent Change 1970 to 1980	Percent	
	1980	1970		1980	1970
Employed males, 16+...	18994	15245	24.6	100.0	100.0
Private wage and salary.	9605	7397	29.8	50.6	48.5
Federal government.....	4075	4548	-10.4	21.5	29.8
Local government.....	4609	2984	54.4	24.3	19.6
Self-employed.....	684	302	126.5	3.6	2.0
Unpaid family worker....	9	14	-35.7	.0	.1
Subsistence.....	12	(NA)	(NA)	.1	(NA)

Source: U.S. Census Bureau PC80-1-C/D54 1980 Table 23; PC(1)-B54 1970 Table 15

There was a nearly 100 percent increase in the number of females in the labor force between 1970 and 1980, with the highest gains being in the areas of self and private employment (Table 11.22). The only category to shrink was that of unpaid family workers, which decreased by 35 percent.

Table 11.22. Change in Class of Female Worker: 1970 and 1980

Class of Worker	Number		Percent Change 1970 to 1980	Percent	
	1980	1970		1980	1970
Employed females, 16+.	13698	6867	99.5	100.0	100.0
Private wage and salary.	6970	2738	154.6	50.9	39.9
Federal government.....	1926	1593	20.9	14.1	23.2
Local government.....	4447	2381	86.8	32.5	34.7
Self-employed.....	336	129	160.5	2.5	1.9
Unpaid family worker....	17	26	-34.6	.1	.4
Subsistence.....	2	(NA)	(NA)	.0	(NA)

Source: U.S. Bureau of the Census PC80-1-C/D54 1980 Table 23; PC(1)-B54 1970 Table 15

In 1980, 45 percent of workers who were born on Guam were employed by the local government; the private sector was the second largest category of employment, with 32 percent of Guam-born employees (Table 11.23 and Figure 11.8). For all other employees, the private sector was the largest source of employment,

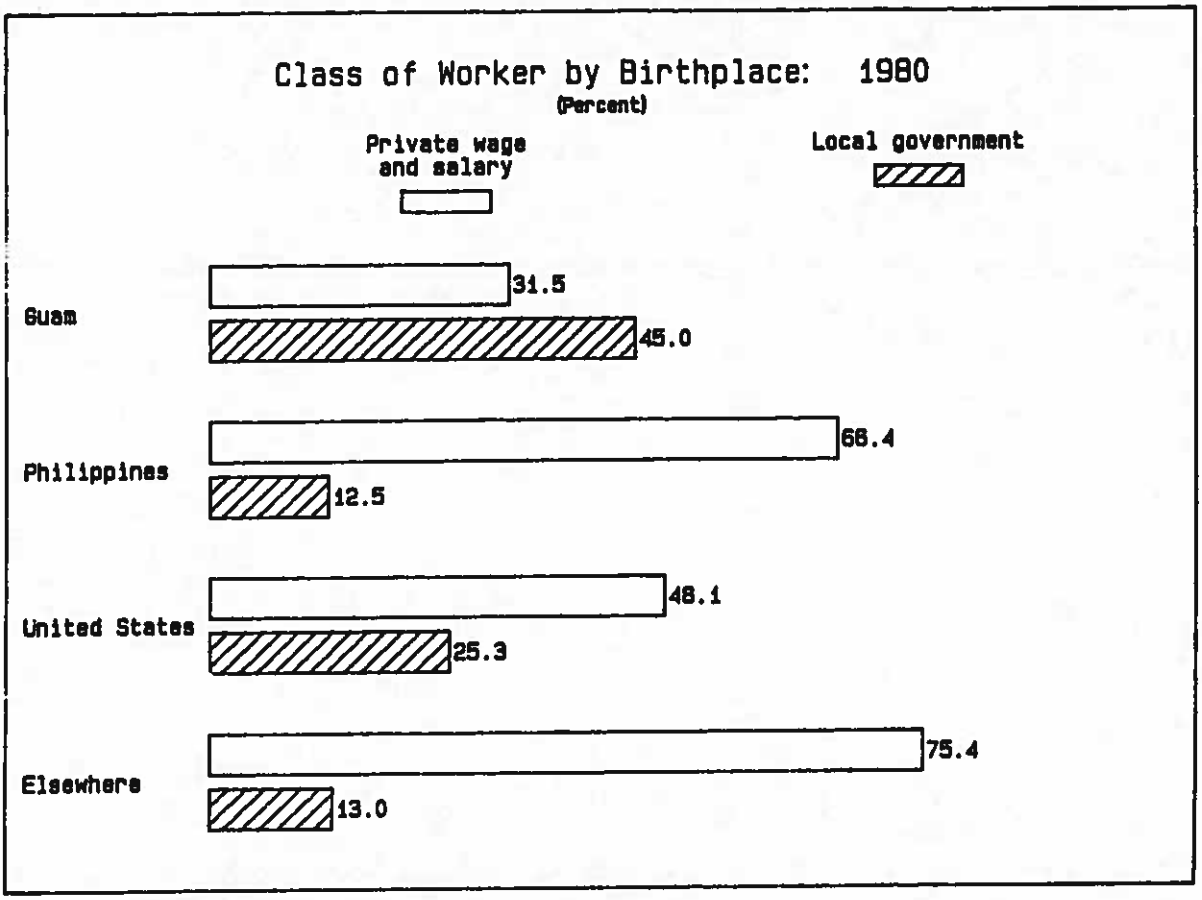
with proportions ranging from 75 percent of "other"-born employees, to 48 percent of those born in the U.S. Workers born in the Philippines had Federal government as the second most common category of employment; for persons born in the U.S. and other areas, local government was second.

Table 11.23. Class of Worker by Birthplace: 1980

Class of Worker	Numbers				Percent				
	Guam	Phil-ppns	USA	Ot-her	Total	Guam	Phil-ppns	USA	Ot-her
Emplyd, 16+ yrs..	13001	9188	5636	4867	100.0	100.0	100.0	100.0	100.0
Prvt wage and sal..	4092	6100	2713	3670	50.7	31.5	66.4	48.1	75.4
Federal government.	2751	1686	1231	333	18.4	21.2	18.4	21.8	6.8
Local government...	5847	1151	1427	631	27.7	45.0	12.5	25.3	13.0
Self-employed.....	289	244	261	226	3.1	2.2	2.7	4.6	4.6
Unpaid family.....	12	7	4	3	.1	.1	.1	.1	.1
Subsistence.....	10	0	0	4	.0	.1	0.0	0.0	.1

Source: U.S. Bureau of the Census PC80-1-C/D54 1980 Table 28

Figure 11.8 Class of Worker by Birthplace: 1980
(Percent)



Employed males followed the pattern set by all workers, except for the U.S. born (Table 11.24). Their second largest source of jobs was the Federal government, as opposed to the local government, which was the second most common source of employment of all U.S. born employees. Considering that most U.S. born males were presumed to be in the military, this finding is not surprising.

Table 11.24. Class of Male Worker by Birthplace: 1980

	Numbers				Percent				
Class of Worker	Guam	Phil-ppns	USA	Ot-her	Total	Guam	Phil-ppns	USA	Ot-her
Emplyd males, 16+.	7400	5832	2954	2808	100.0	100.0	100.0	100.0	100.0
Prvt wage and sal..	2215	3843	1428	2119	50.6	29.9	65.9	48.3	75.5
Federal government.	1876	1319	687	193	21.5	25.4	22.6	23.3	6.9
Local government...	3118	494	657	340	24.3	42.1	8.5	22.2	12.1
Self-employed.....	180	174	180	150	3.6	2.4	3.0	6.1	5.3
Unpaid family.....	3	2	2	2	.0	.0	.0	.1	.1
Subsistence.....	8	0	0	4	.1	.1	0.0	0.0	.1

Source: U.S. Bureau of the Census PC80-1-C/D54 1980 Table 28

Except for Guam-born employed females, private companies employed the greatest proportions of females (Table 11.25). The local government was where most Guam-born women were employed.

Table 11.25. Class of Female Worker by Birthplace: 1980

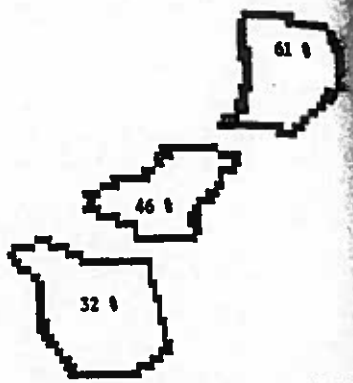
	Numbers				Percent				
Class of Worker	Guam	Phil-ppns	USA	Ot-her	Total	Guam	Phil-ppns	USA	Ot-her
Emplyd fmles,16+	5601	3356	2682	2059	100.0	100.0	100.0	100.0	100.0
Prvt wage and sal.	1877	2257	1285	1551	50.9	33.5	67.3	47.9	75.3
Federal government.	875	367	544	140	14.1	15.6	10.9	20.3	6.8
Local government...	2729	657	770	291	32.5	48.7	19.6	28.7	14.1
Self-employed.....	109	70	81	76	2.5	1.9	2.1	3.0	3.7
Unpaid family.....	9	5	2	1	.1	.2	.1	.1	.0
Subsistence.....	2	0	0	0	.0	.0	0.0	0.0	0.0

Source: U.S. Bureau of the Census PC80-1-C/D54 1980 Table 28

Of the 32,692 employed persons 16 years and over, most (51 percent) were private wage and salary workers (See Tables 11.26 and 11.27), followed by local government employees. The Northern region had the highest proportion of its residents being private employees (61 percent), followed by the Central region (46 percent) and the South (32 percent). Tamuning was the election district with the greatest percentage of private employees (72 percent); Umatac had the least (18 percent).



Percent of All Workers Being Local Government Employees



Percent of All Workers Being Private Wage and Salary

Table 11.26. Class of Worker by Election District: 1980

Election District	Total	Private Wage	Federal Govern-ment	Local Govern-met	Self Em-ployed	Unpaid Family/ Subsis
Guam	32692	16575	6001	9056	1020	40
Northern	15747	9640	2320	3246	525	16
Dededo	7530	4297	1336	1697	194	6
Tamuning	5975	4310	446	949	262	8
Yigo	2242	1033	538	600	69	2
Central	10851	5012	1900	3546	374	19
Agana	419	230	45	104	35	5
Agana Heights	1127	472	201	424	28	2
Asan	688	302	171	185	30	0
Barrigada	2331	1095	436	722	76	2
Chalan Pago/Ordot	961	340	155	428	36	2
Mangilao	2165	1016	352	753	41	3
Mongmong-Toto-Maite	1721	947	272	425	76	1
Piti	561	272	101	156	29	3
Sinajana	878	338	167	349	23	1
Southern	6094	1923	1781	2264	121	5
Agat	1213	344	444	403	21	1
Inarajan	589	156	85	336	12	0
Merizo	469	128	110	214	17	0
Santa Rita	1727	616	729	348	34	0
Talofofo	583	192	99	278	13	1
Umatac	192	34	66	89	2	1
Yona	1321	453	248	596	22	2

Source: U.S. Bureau of the Census 1980 Summary Tape File 3A, Table 67

The South had 29 percent of its residents employed by the Federal government, with Santa Rita the village with the highest percentage. Only 15 percent of those

residing in the North were working for the Federal government. Most (37 percent) of Southern residents worked for the local government, the single greatest employer of those in the South. Fully 57 percent of those living in Inarajan were local government employees.

The region with the highest proportion of its residents who were self-employed was the Central region (3 percent), with Agana (8 percent) the village with the largest percentage (Table 11.27). Agana was also the village with the greatest proportion of unpaid family and subsistence workers, with over 1 percent of its workers.

Table 11.27. Percent Class of Worker by Election District: 1980

Election District	Total	Private Wage	Federal Govern-ment	Local Govern-met	Self Em-ployed	Unpaid Family/ Subsis
Guam.....	100.0	50.7	18.4	27.7	3.1	0.1
Northern.....	100.0	61.2	14.7	20.6	3.3	0.1
Dededo.....	100.0	57.1	17.7	22.5	2.6	0.1
Tamuning.....	100.0	72.1	7.5	15.9	4.4	0.1
Yigo.....	100.0	46.1	24.0	26.8	3.1	0.1
Central.....	100.0	46.2	17.5	32.7	3.4	0.2
Agana.....	100.0	54.9	10.7	24.8	8.4	1.2
Agana Heights.....	100.0	41.9	17.8	37.6	2.5	0.2
Asan.....	100.0	43.9	24.9	26.9	4.4	0.0
Barrigada.....	100.0	47.0	18.7	31.0	3.3	0.1
Chalan Pago/Ordot...	100.0	35.4	16.1	44.5	3.7	0.2
Mangilao.....	100.0	46.9	16.3	34.8	1.9	0.1
Mongmong-Toto-Maite.	100.0	55.0	15.8	24.7	4.4	0.1
Piti.....	100.0	48.5	18.0	27.8	5.2	0.5
Sinajana.....	100.0	38.5	19.0	39.7	2.6	0.1
Southern.....	100.0	31.6	29.2	37.2	2.0	0.1
Agat.....	100.0	28.4	36.6	33.2	1.7	0.1
Inarajan.....	100.0	26.5	14.4	57.0	2.0	0.0
Merizo.....	100.0	27.3	23.5	45.6	3.6	0.0
Santa Rita.....	100.0	35.7	42.2	20.2	2.0	0.0
Talofofo.....	100.0	32.9	17.0	47.7	2.2	0.2
Umatac.....	100.0	17.7	34.4	46.4	1.0	0.5
Yona.....	100.0	34.3	18.8	45.1	1.7	0.2

Source: U.S. Bureau of the Census 1980 Summary Tape File 3A, Table 67

ECONOMIC CENSUS DATA

In addition to collecting information on employment in certain industries in the Census of Population, the Census Bureau has taken Economic Censuses of Guam approximately every 5 years beginning in 1958. The kinds of data gathered include

numbers and kinds of businesses (e.g., construction, manufacturing, retail trade, etc.), their location, number of employees, and the legal organization of the industry.

The following conventions are used:

Establishments: An establishment is a single physical location at which business is conducted. It is not necessarily identical with its parent company or enterprise, which may consist of one establishment or more. The published census figures represent a summary of reports for individual establishments rather than companies. The establishment count represents those establishments in business at the end of the reference year.

When two activities or more were carried on at a single location under a single ownership, they generally were grouped together as a single establishment and the entire establishment classified on the basis of its major activity, with all its data included in that classification. However, when distinct and separate economic activities (with different industry classification codes) were conducted under the same ownership at a single location, and when conditions prescribed by the SIC Manual for recognizing the existence of more than one establishment were met, separate establishment reports for each of the different activities were obtained in the census.

Paid Employees for the Reference Week: Paid employees, including salaried officers and executives of corporations, were those full- and part-time employees who were on the payroll during the reference week used in the census. Included were employees on paid sick leave, paid holidays, and paid vacations. Proprietors and partners of unincorporated businesses were not included.

Table 11.28 shows the number and percent of establishments by industry that were in business at the end of the reference year. In each census, retail trade was by far the largest single category of industry, though the proportion declined in each survey. The next largest industry, in terms of number of establishments, was selected services. In 1958, selected services businesses were only 19 percent of establishments.

Table 11.28. Establishments by Industry: 1958 to 1982

Industry	1982	1977	1972	1967	1963	1958
Total.....	1377	900	710	553	443	457
Percent..	100.0	100.0	100.0	100.0	100.0	100.0
Construction....	4.4	8.2	9.9	(NA)	(NA)	(NA)
Manufacturing...	1.6	2.2	4.1	4.2	2.7	2.0
Wholesale trade.	6.5	5.7	8.5	6.9	7.4	4.4
Retail trade....	58.2	59.0	58.6	70.0	70.0	74.6
Selected Services.	29.3	24.9	19.0	19.0	19.9	19.0

Source: U.S. Bureau of the Census OAC82-6 1982, Table 1
Notes: Starting in 1977, selected services also included travel agencies, dental laboratories, and legal and engineering, architectural, and surveying services.

The smallest industry on Island both in number and proportion of establishments was manufacturing. In 1958 only 9 places had manufacturing as major industry; this increased to a peak of only 29 establishments in 1972. The highest proportion that manufacturing ever had of all industry establishments was only 4.2 percent in 1967, which was a 92 percent increase from the previous census.

The wholesale trade industry has shown the greatest change in the number of establishments counted in each survey (Table 11.29). Between 1958 to 1963, the number of wholesale trade establishments grew by 65 percent, but increased by only 15 percent between 1963 and 1967. From 1967 to 1972, it grew by 58 percent, then decreased by 15 percent between 1972 and 1977. In 1982, the industry had increased by 75 percent over 1977 levels. Selected services remained at about 19 percent of all establishments until 1977, when they experienced a 31 percent increase, then grew even more (80 percent) by 1982.

Table 11.29. Change in Number of Establishments by Industry: 1958 to 1982

Industry	1977 to 1982	1972 to 1977	1967 to 1972	1963 to 1967	1958 to 1963
Total.....	53.0	26.8	28.4	24.8	-3.1
Construction.....	-17.6	5.7	(NA)	(NA)	(NA)
Manufacturing.....	10.0	-31.0	26.1	91.7	33.3
Wholesale trade.....	74.5	-15.0	57.9	15.2	65.0
Retail trade.....	51.0	27.6	7.5	24.8	-9.1
Selected Services...	79.9	65.9	28.6	19.3	1.1

Source: U.S. Bureau of the Census OAC82-6 1982, Table 1
Notes: See Table 11.28

Although there were only 2,670 paid employees listed for the various industries in 1958, by 1982 11,871 persons were included, the highest ever recorded. The greatest number of employees were in the retail trade industry, followed by selected services, except for 1972, when construction had the second highest number of employees (Table 11.30).

Table 11.30. Paid Employees for Reference Week: 1958 to 1982

Industry	1982	1977	1972	1967	1963	1958
Total.....	11,871	10,405	11,128	4,403	2,814	2,670
Percent...	100.0	100.0	100.0	100.0	100.0	100.0
Construction.....	11.7	24.3	26.7	(NA)	(NA)	(NA)
Manufacturing....	5.4	6.6	10.8	18.5	12.7	6.6
Wholesale trade..	8.3	5.2	8.5	9.7	13.6	9.2
Retail trade....	45.5	39.1	34.8	60.0	63.0	73.2
Selected Services	29.2	24.7	19.2	11.7	10.7	11.0

Source: U.S. Bureau of the Census OAC82-6 1982, Table 1
Notes: See Table 11.28.

In 1972, construction followed retail trade as the industry with the most paid employees, reflecting a boom period in building on the island. After 1972, however, the percentage of paid employees in the construction industry decreased, until in 1982 they were only 12 percent of total paid employees.

Between 1967 and 1972, the total number of paid employees jumped by 153 percent, most of which was accounted for by the selected services field, which increased by 315 percent (Table 11.31). None of the industries decreased during this period, but between 1972 and 1977, 3 of the 5 industries did so: construction by 15 percent, manufacturing by 43 percent and wholesale trade by 42 percent. Numbers of paid employees in retail trade increased only modestly (5 percent), while selected services grew by 20 percent. During the next 5 year period, only construction and manufacturing decreased (by 45 and 7 percent, respectively), but the other industries showed increases in their numbers of paid employees.

Table 11.31. Change in Number of Paid Employees: 1958 to 1982

Industry	1977 to 1982	1972 to 1977	1967 to 1972	1963 to 1967	1958 to 1963
Total.....	14.1	-6.5	152.7	56.5	5.4
Construction.....	-45.4	-14.8	(NA)	(NA)	(NA)
Manufacturing.....	-7.0	-42.9	47.2	127.9	103.4
Wholesale trade.....	79.7	-42.2	120.8	12.0	55.9
Retail trade.....	32.7	5.2	46.3	49.1	-9.3
Selected Services...	35.0	20.0	314.9	71.4	2.4

Source: U.S. Bureau of the Census OAC82-6 1982, Table 1
Notes: See Table 11.28

Retail trade businesses had the highest proportions in every category of form of organization in 1982, with selected services in second place (Table 11.32). Of the 571 individual proprietorships, 67 percent were retail trade establishments, as were 65 percent of partnerships and 51 percent of corporations. There were no partnerships in the wholesale trade industry, and only 1 each in construction and manufacturing.

Table 11.32. Legal Form of Organization by Industry: 1982

Industry	Total	Individual Proprietorship	Partnerships	Corporations
Total.....	1,377	571	68	738
Percent.....	100.0	100.0	100.0	100.0
Construction.....	4.4	1.4	1.5	7.0
Manufacturing.....	1.6	.5	1.5	2.4
Wholesale trade.....	6.5	2.8	0.0	9.9
Retail trade.....	58.2	67.1	64.7	50.8
Selected Services...	29.3	28.2	32.4	29.8

Source: U.S. Bureau of the Census OAC82-6 1982, Table 2
Notes: See Table 11.28

Corporations held the highest percentages of every industry except for retail trade, where they were a close second place. Individual proprietorships were the next most common form of organization.

Table 11.33. Legal Form of Organization by Percent Industry: 1982

Industry	Total	Individual Proprietorship	Partnerships	Corporations
Total.....	100.0	41.5	4.9	53.6
Construction.....	100.0	13.1	1.6	85.2
Manufacturing.....	100.0	13.6	4.5	81.8
Wholesale trade.....	100.0	18.0	0.0	82.0
Retail trade.....	100.0	47.8	5.5	46.8
Selected Services...	100.0	40.0	5.5	54.6

Source: U.S. Bureau of the Census OAC82-6 1982, Table 2
Notes: See Table 11.28

Of the 11,871 paid employees in 1982, 10,697 worked for corporations, 1,103 for individual proprietorships, and only 71 for partnerships (Table 11.34). All of those working for partnerships did so in the area of retail trade.

Table 11.34. Legal Form of Organization by Paid Employees: 1982

Industry	Total	Individual Proprietorship	Partnerships	Corporations
Total.....	11,871	1,103	71	10,697
Percent.....	100.0	100.0	100.0	100.0
Construction.....	11.7	5.1	0.0	12.4
Manufacturing.....	5.4	3.1	0.0	5.6
Wholesale trade.....	8.3	5.7	0.0	8.6
Retail trade.....	45.5	58.7	100.0	43.8
Selected Services...	29.2	27.4	0.0	29.6

Source: U.S. Bureau of the Census OAC82-6 1982, Table 2

For the 10,697 paid employees who worked for corporations, 44 percent were in the area of retail trade, 30 percent in selected services, and 12 percent in construction. Nearly 59 percent of employees of individual proprietorships were in retail trade, and all of partnership employees.

As can be seen in Table 11.35, corporations had the greatest proportions of employees, followed by individual proprietorships. Fully 96 percent of construction employees were working for corporations, with the remainder in individual proprietorships. Retail trade had the only paid employees working for partnerships.

Table 11.35. Percent Legal Form of Organization by Paid Employees: 1982

Industry	Total	Individual Proprietorship	Partnerships	Corporations
Total.....	100.0	9.3	.6	90.1
Construction.....	100.0	4.0	0.0	96.0
Manufacturing.....	100.0	5.3	0.0	94.7
Wholesale trade.....	100.0	6.4	0.0	93.6
Retail trade.....	100.0	12.0	1.3	86.7
Selected Services...	100.0	8.7	0.0	91.3

Source: U.S. Bureau of the Census OAC82-6 1982, Table 2

The data from the Economic Censuses show that several industries had a pattern of continued growth, such as retail trade and selected services, and can be expected to grow in the future. Some industries, such as construction and manufacturing, are cyclical and were in a stage of either slow growth or actively decreasing in 1982, but are expected to show an upswing of activity in the 1987

Economic Census. With an increase in activity will come an associated increase in the number of paid employees in each industry.

AGRICULTURE CENSUS

The first agriculture census of Guam was taken in 1920 as part of the decennial census, a practice that continued through 1960. The 1964 Census of Agriculture was the first quinquennial (5-year) census to be taken in Guam. In 1976, Congress authorized the census of agriculture to be taken for 1978 and 1982 to adjust the data reference year to coincide with the 1982 Economic Census. After 1982, the agriculture reverted to a 5-year cycle, to cover years ending in "2" and "7".

For the agriculture data presented here, the following conventions are used:

Farm was defined as a place on which any crop, vegetable, or fruit was harvested or gathered during the reference year, or on which there was any livestock or 15 or more poultry at the time of enumeration.

Land in Farms was determined from the answers to questions 1 through 7 in section 2 of the report form. The amounts of land reported as owned, rented from others, used under permit, occupied without permit, or furnished by the government were added together, and the amount of land reported as rented to others was subtracted from that sum. The result represented "land in farms".

Land owned included all land held by the operator or his/her spouse under title, purchase contract, homestead law, or as heir or trustee of an undivided estate at the time of enumeration. However, land used by the military services was excluded even though owned by the operator.

Land rented to others included all land the operator rented or leased to others and all land assigned to others on shares or rent free during the reference year. The tenant is considered to be the operator of land leased, rented, or worked on shares, even though the landlord may supervise the operations. The landlord is considered to be the operator of only that portion of the land not assigned to tenants.

Land rented from others included not only land that the operator rented or leased from others, but also land worked on shares for others and land occupied rent free.

Land occupied by permit included all land for which the operator had a Government of Guam permit. Rights to use land owned or controlled by the Government of Guam were in the form of permits rather than lease or rental arrangements.

Land occupied without permit included all land occupied by the operator as a "Borrower" or "nonpermittee" without ownership rights to the land, or without any kind of permit, lease, or rental agreement.

Land furnished by the Government included all land that the Government of Guam furnished to the operator in connection with his/her living quarters.

Land use in farms was categorized according to the way it was being used on enumeration day. The land uses described in the following paragraphs are mutually exclusive in that each acre of land was counted only once, even though it may have had more than one use during the year.

Cropland used for crops included all land planted in crops at the time of enumeration. Land was to be reported only once, even if two or more crops were planted on it. Land in crops included (1) land in bearing and nonbearing fruit and nut trees or plants or any other tree crops, (2) land that had partial but not total crop failure, and (3) land in home gardens.

Cropland used for pasture included all cropland on the place that was used only for pasture. Land planted in crops, even though the crops were not to be harvested, was not to be included here.

Cropland not used for crops or pasture included cropland on the place that was not used for crops or pasture. It did not include land so hilly, rocky, or wet that the cost of improving it for cultivation would be more than the operator could pay. Nor did it include land in roads, streams or swamps. It did include land on which there was total crop failure due to flood, drought, insects, fire, or other causes; cropland lying idle; and cropland planted with soil-improvement grasses, or other cover crops planted for the purpose of improvement.

Pastureland used for pasture or grazing included land used for grazing livestock at the time of enumeration. It did not include cropland, even though cattle or other livestock may have been grazed on it.

Pastureland not used for pasture or grazing referred to all land suitable for pasture or grazing that was not being used for grazing livestock at the time of enumeration. It included land that, in the opinion of the operator, could have supported enough plant growth, either native or planted for grazing, provided the clearing and grazing of the land would not seriously damage it.

All other land included all land not qualifying as either cropland or pastureland as defined previously. It included land in house lots, barn lots, ponds, ditches, swamps, steep slopes, roads, brushland, wasteland, and forest areas.

Operator characteristics: Data were obtained to classify the operators according to selected characteristics, two of which (age and main occupation) are shown here.

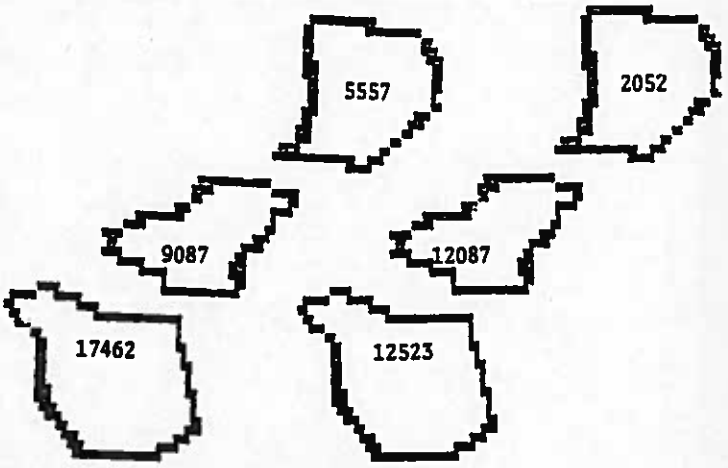
Age of operator: Operators were classified by age into six groups. The average age was obtained by dividing the sum of the ages of all operators by the number reported.

Main occupation: This question was asked to determine whether the principal occupation of the operator was agricultural or nonagricultural. If the operator devoted 50 percent or more of his/her work time to agricultural activities, his/her main occupation was considered to be agriculture.

AGRICULTURE CHARACTERISTICS

Between 1960 and 1982, the total amount of land in farms decreased from 32,109 acres to 26,662 acres (Table 11.36). By region, the South had the largest amount of land in farms in all years, except for 1975, when the Central region had the highest amount.

Between 1960 and 1964, the amount of land in farms in the South decreased, reducing the average size of farms there from 24.8 acres to 7.5 acres per farm (Table 11.36). The North also decreased in land for farms, but the Central region doubled in the amount of farmland recorded. Between 1964 and 1970, farmland decreased by almost one-half in the Central area, but grew slightly in the South. This pattern of leaps and drops stopped in 1975: the land in farms increased or decreased in smaller amounts after that time, as did the average size of farms.

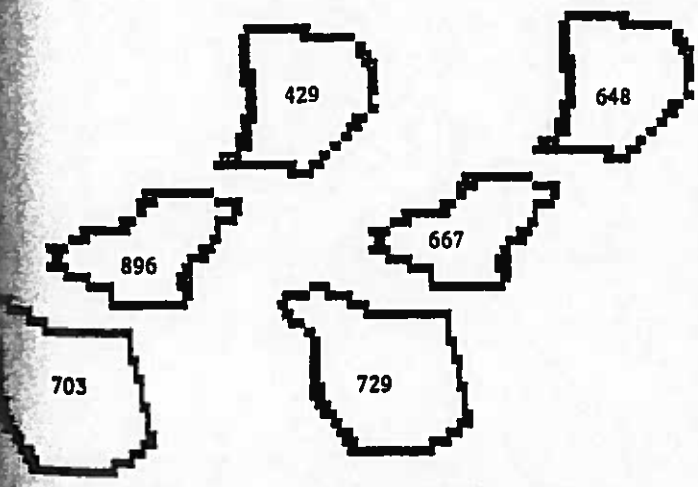


Farm Land in Acres: 1960 Farm Land in Acres: 1982

Table 11.36 Land and Average Size of Farms: 1960 to 1982

	Land (in acres)				Average Size (acres)			
Year	Total	North	Cntrl	South	Total	North	Cntrl	South
1982.....	26662	2052	12087	12523	13.0	3.2	18.1	17.2
1978.....	28619	1688	12381	14548	14.3	3.5	19.4	16.5
1975.....	29766	2305	13947	13514	18.9	5.4	27.2	21.3
1970.....	26158	2444	6749	8907	23.3	8.2	16.6	25.7
1964.....	30100	4383	18476	7236	11.9	10.1	16.4	7.5
1960.....	32109	5557	9087	17462	15.8	13.0	10.1	24.8

Source: U.S. Bureau of the Census AC82-A-53 1982 Table 10; AC78-A-53 1978 Table 10; Census of Agriculture Vol 1, Part 53 Table 10; Census of Agriculture 1964 Vol. 1, Part 51, Table 6.



Number of Farms: 1960 Number of Farms: 1982

Table 11.37 shows the number of farms from 1960 to 1982, and the percentage change in number of farms between censuses. In 1960, there were 2,028 farms on the island. The number peaked at 2,529 farms in 1964, dropped by 56 percent by 1970, then increased to 2,044 in 1982. The sharp drop in the number of farms between 1964 and 1970 was evident in all 3 regions, with the North losing the most farms (723) and the South losing the highest proportion (64.1 percent of 1964 farms). By 1982, all regions except the South were growing in the number of farms.

Between 1978 and 1982, the South lost 155 farms, 18 percent of the 1978 total. This may have been due to reporting problems.

Table 11.37. Number of Farms and Percent Change: 1960 to 1982

Region	Number of Farms						Percent Change				
	1982	1978	1975	1970	1964	1960	1978-1982	1975-1978	1970-1975	1964-1970	1960-1964
Guam	2044	1999	1576	1121	2529	2028	2.3	26.8	40.6	-55.7	24.7
North..	648	476	430	298	435	429	36.1	10.7	44.3	-31.5	1.4
Central	667	639	512	406	1129	896	4.4	24.8	26.1	-64.0	26.0
South..	729	884	634	346	965	703	-17.5	39.4	83.2	-64.1	37.3

Source: U.S. Bureau of the Census AC82-A-53 1982 Table 10; AC78-A-53 1978 Table 10; Census of Agriculture Vol. 1 Part 53 1974 Table 10; Census of Agriculture Vol. 1 Part 51 1964 Table 6.

Of the 32,109 acres of land in farms in 1960, 28 percent was cropland used for pasture, 23 percent was pastureland used for pasture or grazing, and only 10 percent was cropland used for crops (Table 11.38). In 1964, the proportion of cropland actually used for crops increased by 17 percent, from 3,243 acres to 3,793 acres. The percentage of pastureland used for pasture or grazing nearly doubled, from 23 percent to 42 percent. In the succeeding censuses, the amount of land in farms decreased, as did the proportion of cropland used for crops. By 1975, cropland not used for either crops or pasture jumped to 39 percent of the total land in farms, while land used for crops was only 8 percent of the total. In 1982, the category "All other land" comprised the greatest amount of land in farms, while cropland used for crops was only 7 percent.

Table 11.38. Land in Farms by Land Use: 1960 to 1982

Year	Land in Farms (acres)	Cropland				Pastureland		All other land
		Total	Used for Crops	Used for Pasture	Not used crops/ pasture	Used for pasture/ grazing	Not used pasture/ grazing	
1982..	26662	100.0	6.6	2.5	8.7	13.4	21.0	47.8
1978..	28619	100.0	5.0	2.6	41.9	39.0	2.2	9.3
1975..	29766	100.0	7.8	4.3	38.7	42.0	.4	6.8
1970..	26158	100.0	8.5	25.3	7.2	36.2	5.3	17.5
1964..	30100	100.0	12.6	22.4	9.7	41.8	2.8	10.6
1960..	32109	100.0	10.1	27.7	15.1	23.2	3.2	20.6

Source: U.S. Bureau of the Census AC82-A-53 1982 Table 1; Census of Agriculture 1975 Vol. 1, Part 53 Table 1; Census of Agriculture 1964 Vol. 1, Part 51 Table 8.

In 1960, 62 percent of farm operators were full owners of their farms, 18 percent were nonpermittees, 16 percent held permits to work the farmland, and 4

percent were tenants (Table 11.39). The proportion of full owners rose to a peak of 81 percent in 1970, fell to its lowest point (77 percent) in 1975, then rose and fell again in 1978 and 1982. All categories of tenure exhibited this roller-coaster trend except that of tenants: after peaking at 8 percent in 1964 and dropping by 49 percent to 4.2 percent in 1970, the proportion of tenant farmers steadily rose to 6.8 percent in 1982.

Table 11.39. Farms by Tenure: 1960 to 1982

Tenure	Number of Farms						Percent					
	1982	1978	1975	1970	1964	1960	1982	1978	1975	1970	1964	1960
All opr..	2044	1999	1576	1121	2529	2028	100	100	100	100	100	100
Full ownr..	1595	1609	1208	913	1985	1253	78.0	80.5	76.6	81.4	78.5	61.8
Part ownr..	27	31	45	4	60	14	1.3	1.6	2.9	.4	2.4	.7
Tenants....	138	116	81	47	211	72	6.8	5.8	5.1	4.2	8.3	3.6
Permittees.	237	93	216	114	224	316	11.6	4.7	13.7	10.2	8.9	15.6
Nonprmtee..	23	116	16	37	31	355	1.1	5.8	1.0	3.3	1.2	17.5
Others.....	24	34	10	6	18	18	1.2	1.7	.6	.5	.7	.9

Source: U.S. Bureau of the Census AC82-A-53 1982 Table 3; AC78-A-53 1978 Table 3; Census of Agriculture Vol. 1, Part 53 1974 Table 3; Census of Agriculture Vol. 1, Part 51 1964 Table 5.

As can be seen in Table 11.40, most farm operators were 35 years old and over in all 4 census years from 1970 to 1982. The average age was either 50 years (1970 to 1978) or 51 years (1982). Most farmers reported that their main occupation was non-agricultural: this ranged from 66 percent in 1970 to 91 percent of all farmers in 1982.

Table 11.40. Operators by Age and Main Occupation: 1970 to 1982

Age/Occupation					Percent			
	1982	1978	1975	1970	1982	1978	1975	1970
All operators...	2044	1999	1572	876	100.0	100.0	100.0	100.0
Less than 25.....	31	20	28	10	1.5	1.0	1.8	.9
25 to 34.....	244	221	172	83	11.9	11.1	10.9	7.4
35 to 44.....	403	423	344	225	19.7	21.2	21.8	20.1
45 to 54.....	606	725	511	258	29.6	36.3	32.4	23.0
55 to 64.....	508	414	333	188	24.8	20.7	21.1	16.8
65 and over.....	252	196	184	112	12.3	9.8	11.7	10.0
Not Reported.....	0	0	4	245	0.0	0.0	.3	21.9
Mean age.....	51	50	50	50	...	...	...	...
Agricultural.....	192	326	266	168	9.4	16.3	16.9	15.0
Nonagricultural...	1852	1671	1304	745	90.6	83.6	82.7	66.4
Not Reported.....	0	2	6	208	0.0	.1	.4	18.6

Source: U.S. Bureau of the Census AC82-A-53 1982 Table 3; AC78-A-53 1975 Table 20.

In 1986, the College of Agriculture and Life Sciences of the University of Guam conducted a survey of commercial farmers on Guam. While these data are not comparable to census data, they do reflect changes in the approach to farming on Guam.

Table 11.41 Farmers, Farmland, and Production: 1986
(Acres are rounded to nearest ten.)

Category	Number	Percent
Farmers.....	137	100.0
In cooperatives.....	85	62.0
Free agents.....	52	38.0
Farmland (in acres).....	9180	100.0
Very suitable for crops....	4600	50.1
Moderately suitable.....	2200	24.0
Suitable for forest/pasture	380	4.1
Acres in crop production...	560	6.1
Acres not in production....	8620	93.9

Source: College of Agriculture and Life Sciences, University of Guam.

In 1986, there were 137 commercial farmers on Guam (Table 11.41). Of these commercial farmers, 85 (62 percent) were members of farm cooperatives, while 52 were free agents. There were 5 farming cooperatives in operation at that time; one had failed during the previous year. The survey also looked at farmland: there were 9,180 acres of land identified and designated as potential areas for agriculture; 4,600 acres (50 percent) were deemed very suitable for crop production. Another 2,200 acres (24 percent) were moderately suitable for modern farming if the farmers were given some knowledge of farm management techniques, and 380 acres (4 percent) were suitable for forest or pasture.

Crop production took up 560 acres. This left 8,620 acres of potential farmland, of differing quality, not listed as being used for crops.

SUMMARY

The information presented in this chapter has shown trends in the areas of industry, occupation, class of worker, and agriculture. Private sector employment is increasing; public sector (government) employment is slowly decreasing. In the private sector, retail and wholesale trade categories experienced the greatest growth. Construction, though decreasing from 1970 to 1980, is expected to show some growth by 1990. Agriculture is still a small industry, and is not likely to grow by 1990. Selected services, however, is expected to continue to increase as an industry category.

Female employment has risen, though the occupations that females hold have not significantly changed. The proportion of high school graduates who are employed is expected to remain at about the same levels; the percentage of certain ethnic groups in selected industries is not expected to change.

CHAPTER 12
INCOME

Income data help (1) various levels of the Territorial government assess the applicability of potential programs designed to alleviate poverty and determine eligibility criteria for Social Security pension and public assistance programs; (2) the business community to gauge changes in consumer buying practices and inflationary trends that reflect consumers' spending ability and their affluence; and (3) the U.S. Federal government to compare Stateside income data with those of Guam.

The data on income in 1979 were derived from answers to questions 30 and 31. Information on money income received in the calendar year 1979 was requested from persons 15 years old and over. "Total" income is the algebraic sum of the amounts reported separately for wage and salary income; nonfarm net self-employment income; farm net self-employment income; interest, dividend, net royalty or rental income; Social Security or Retirement income; public assistance or welfare income; and, all other income (including remittances). "Earnings" is defined as the algebraic sum of wage or salary income and net income from farm and nonfarm self-employment. The earnings figures represent the amount of income received regularly before deductions for personal income taxes, Social Security, bond purchases, union dues, medicare deductions, etc.

Receipts from the following sources were not included as income: money received from the sale of property (unless the recipient was engaged in the business of selling such property); the value of income "in kind" from food stamps, public housing subsidies, medical care, employer contributions for pensions, etc.; withdrawal of bank deposits; money borrowed; tax refunds; exchange of money between relatives in the same household; gifts and lump-sum inheritances, insurance payments, and other types of lump-sum receipts.

TYPES OF INCOME

The seven types of income reported in the census were defined as follows:

Wage or Salary Income was total money earnings for work performed as an employee during the calendar year 1979. It included wages, salary, U.S. Armed Forces pay, commissions, tips, piece-rate payments, and cash bonuses earned, before deductions were made for taxes, bonds, pensions, union dues, etc.

Nonfarm Self-Employment Income was net money income (gross receipts minus expenses) from one's own business, professional enterprise, or partnership. Gross receipts included the value of all goods sold and services rendered. Expenses included costs of goods purchased, rent, light, power, depreciation charges, wages and salaries paid, business taxes (not personal income taxes), etc.

Farm Self-Employment Income was net money income (gross receipts minus operating expenses) from a farm or fishing operation by a person on his or her own account, as an owner, renter, or sharecropper. Gross receipts included the value of all products sold, government farm programs, money received from the rental of farm equipment to others, and incidental receipts from the sale of wood, sand, gravel, etc. Operating expenses included cost of feed, fertilizer, seed, and other farming supplies, cash wages paid to farm-hands, depreciation charges, cash

rent, interest on farm mortgages, farm building repairs, farm taxes (not personal income taxes), etc. The value of fuel, food, or other farm products used for family living was not included as part of net income.

Interest, Dividend, or Net Rental Income included interest on savings or bonds, dividends from stockholdings or membership in associations, net royalties, and net income from rental of property to others and receipts from boarders or lodgers.

Social Security Income included Social Security pensions and survivors benefits and permanent disability insurance payments made by the Social Security Administration, prior to deductions for medical insurance, and railroad retirement insurance checks from the U.S. Government. "Medicare" reimbursements were not included.

Public Assistance Income included (1) supplementary security income payments made by Federal or territorial welfare agencies to low income persons who were aged (65 years or older), blind, or disabled; (2) aid to families with dependent children; (3) general assistance. Separate payments received for hospital or other medical care (vendor payments) were included in this item.

All Other Income included unemployment compensation, veteran's payments, public or private pensions, alimony or child support, worker's compensation, periodic payments from estates and trust funds, periodic receipts from annuities or insurance, contributions received periodically from persons not living in the household, military family allotments, net gambling winnings, and other kinds of periodic income other than earnings.

Median income is the amount which divides the distribution into two equal groups, one having incomes above the median, and the other having incomes below the median. The median for persons in all areas was based on persons with income. The median income value for persons were computed on the basis of more detailed income intervals than shown in this report. Median income figures were calculated using linear interpolation.

Mean income is the amount obtained by dividing the total income of a particular statistical universe by the number of units in that universe. Thus, mean income is obtained by dividing the total income for persons by the total number of persons with income.

Care should be exercised in using and interpreting mean income values for small subgroups for the population. Since the mean is strongly influenced by extreme values in the distribution, it is especially susceptible to effects of sampling variability, misreporting, and processing errors. The median, which is not affected by extreme values, is, therefore, a better measure than the mean when the population base is small. The mean, nevertheless, is shown here for most small subgroups because, when weighted according to the number of cases, the means can be added to obtain summary measures for areas and groups other than those shown here.

Limitations of the data. Since questionnaire entries for income were frequently based on memory and not on records, many persons tended to forget minor or irregular sources of income, and therefore, underreported their income. Underreporting tended to be more pronounced for income sources that were not

derived from earnings, such as Social Security, public assistance, or net income from interest, dividends, and rentals. In addition, there were errors of reporting due to misunderstanding of the income questions. One such error was the reporting of gross rather than net dollar amounts for the two questions on net self-employment income, which resulted in an overstatement of these items. Another common error was the reporting of identical dollar amounts in two of the 7 types of income items where a respondent with only one source of income assumed that the second amount should be entered to represent total income. Such instances of over-reporting would have an impact on the level of mean nonfarm or farm self-employment income and mean total income published for the various geographical subdivisions on Guam.

Extensive review procedures were instituted in the coding operation to reduce some of these reporting errors and to improve the accuracy of the income data. Moreover, many reporting errors were rectified through the coding and the computer editing procedures, with the result that consistency of reported income items with work experience, occupation, and class of worker information was improved. For example, if a person reported he or she was self-employed on his/her own farm, not incorporated, but had reported wage and salary earnings only, the latter amount was shifted to net farm self-employment income. Also, if a person reported total income only, the amount was generally assigned to one of the types of income items according to responses to the work experience and class of worker questions. Another type of problem involved the non-reporting of income data. Where income information was not reported, computer allocation procedures were devised to impute appropriate values (either no income or positive or negative dollar amounts) for the missing entries.

Comparability

Data from earlier censuses. The income data collected in the 1960 and 1970 censuses were basically similar to the 1980 census data, but there were variations in the detail of the questions. In 1970, each person was required to report (a) wage or salary income, (b) net non-farm self-employment, (c) net farm self-employment, (d) social security or railroad retirement, (e) public assistance or welfare payments, and (f) income from all other sources in 1969. Between the 1970 and 1980 censuses, there were also some changes in the processing of the data. In the 1970 census, all missing values were imputed either as "None" or as a dollar amount. If a person reported a dollar amount in (a) wage or salary income, (b) net non-farm self-employment income, or (c) net farm self-employment income, the person was considered as unallocated only if no further dollar amounts were imputed for any additional missing entries. In the 1980 census, all persons with missing values in one or more of the seven types of income items and total income were designated as allocated. If total income was reported and one or more of the types of income filled was not answered, then the entry in total income was generally assigned to one of the income types according to socioeconomic characteristics of the income recipient. This person was designated as unallocated. Moreover, there was a difference in the methods of computer derivation of aggregate income from individual amounts that were coded in tens, hundreds, and thousands of dollars in the coding operation. In the 1970 census processing, $50 and $5,000, respectively, were added to each amount coded in the hundreds of dollars (under $100,000) and tens of thousands ($100,000 or more). Entries of $990,000 or more were treated as $995,000 and losses of $9,900 or more were treated as minus $9,950. In the 1980 census, income amounts less than $100,000 were coded in the tens of dollars, the amounts of $100,000 or more were

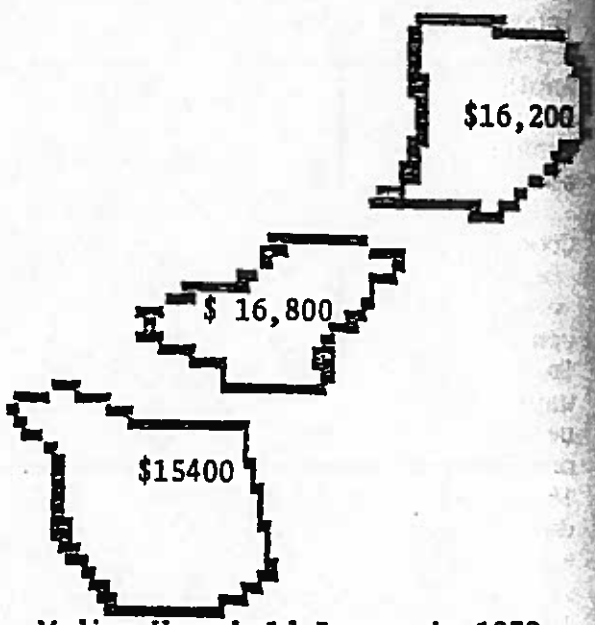
coded in thousands of dollars; $5 was added to each amount coded in tens of dollars and $500 was added to each amount coded in thousands of dollars. Entries of $999,000 or more were treated as $999,500 and losses of $9,990 or more were treated as $9,995 in all of the computer derivations of income aggregates. The coding schemes used in both the 1970 and 1980 census were developed to accommodate space limitations on the questionnaires.

In both the 1970 and 1980 censuses, all nonrespondents on income (whether heads of families or other persons) were assigned the reported income of persons with similar characteristics.

In 1960, data on income were obtained from all persons 14 years old and over. Each person was requested to report (a) wage and salary income, (b) net self-employment income, and (c) income other than earnings received in 1959. An assumption was made in the editing process that no other type of income was received by a person who reported the receipt of either wage or salary income or self-employment but had failed to report the receipt of other money income.

INCOME CHARACTERISTICS

The median household income for Guam in 1979 was $15,752 (Table 12.1). The median family income was $16,203 and median income of unrelated individuals was $6,713. The median income, again, is the measure of central tendency, dividing the number of income observations in half, and is useful for comparing the 3 regions. Of the three regions, the Northern and Central household income medians were slightly higher than the overall median; these regions included 11 villages above the median. The median household income for the Southern region was $15,357. Dededo had the highest median income of the Northern villages at $16,873. In the Central region, Piti had the highest median income at $19,194 and Agana the lowest at $12,794. The villages of Talofofo and Yona in the Southern region had the highest household medians of $17,329 and $18,858 respectively. Santa Rita was the lowest at $13,614.



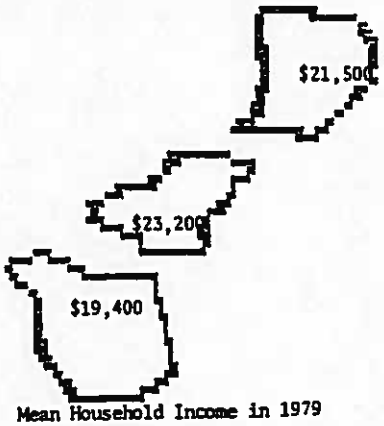
Median Household Income in 1979

Table 12.1. Median Household, Family, and "Unrelateds" Income by Election District: 1980

Election District	Median Household Income	Median Family Income	Median Income of Unrelated Individuals
Guam	$15,752	$16,203	$6,713
Northern	$16,209	$16,557	$7,012
Dededo	$16,873	$17,131	$7,212
Tamuning	$15,091	$15,615	$8,624
Yigo	$14,525	$14,644	$6,365
Central	$16,786	$17,579	$6,560
Agana	$12,794	$15,000	$7,531
Agana Heights	$16,728	$17,868	$6,735
Asan	$18,321	$18,976	$7,600
Barrigada	$15,916	$16,391	$6,136
Chalan Pago/Ordot	$16,517	$16,974	$6,125
Mangilao	$16,062	$16,734	$7,567
Mongmong-Toto-Maite	$14,874	$15,826	$7,603
Piti	$19,194	$20,475	$6,516
Sinajana	$16,418	$17,938	$5,500
Southern	$15,357	$15,738	$6,422
Agat	$15,495	$15,907	$6,333
Inarajan	$15,455	$15,951	$2,250
Merizo	$15,659	$16,786	$7,000
Santa Rita	$13,614	$13,705	$6,394
Talofofo	$17,329	$17,608	$8,000
Umatac	$15,686	$16,055	$3,000
Yona	$18,858	$19,720	$7,792

Source: U.S. Bureau of the Census Summary Tape File 3A, Tables 69, 74 and 82

Median and mean comparisons show that the median household income for Guam in 1979 ($15,752) was somewhat lower than the mean household income of $21,595 (Table 12.2). The Central region which had a higher mean household income than the Northern and Southern regions, was also higher than the overall mean household income for Guam. Villages having the highest mean household income were Tamuning in the North, with a high of $24,662, Agana in Central ($29,688) and Yona in the Southern region ($23,302). A majority of the election districts were



Mean Household Income in 1979

higher than the overall mean household income of $21,595 (Table 12.2). Umatac had the lowest mean household income at $17,877.

Mean family income ($17,089) and mean income of unrelated individuals ($8,461) did not vary as much over the regions and remained close to the overall mean for Guam (Table 12.2). The village of Yona had a much higher mean family income at $20,071 compared to the Southern region average of $17,171. For income of unrelated individuals, the highest mean was for the village of Barrigada at $10,638. The mean income is the value obtained by adding total income reported and dividing by the number of observations. As always, in comparing the income distributions, the mean value is more affected by the addition of extreme cases than the median, so the median is the standard measure.

Table 12.2. Mean Household, Family, and "Unrelateds" Income by Election District: 1980

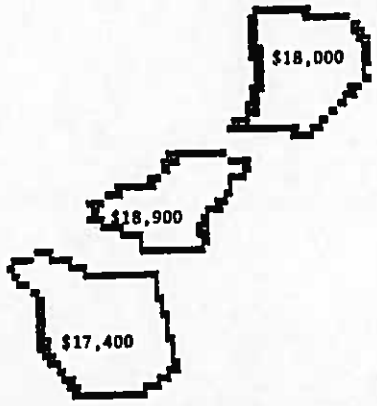
Election District	Mean Household Income	Mean Family Income	Mean Income of Unrelated Individuals
Guam	$21,595	$17,089	$8,461
Northern	$21,533	$16,733	$9,050
Dededo	$20,664	$18,445	$8,079
Tamuning	$24,662	$14,697	$10,310
Yigo	$19,120	$16,544	$7,814
Central	$23,214	$17,547	$8,194
Agana	$29,688	$15,122	$9,215
Agana Heights	$24,056	$17,170	$9,163
Asan	$25,593	$19,239	$10,638
Barrigada	$22,267	$19,260	$6,489
Chalan Pago/Ordot	$20,917	$17,977	$7,391
Mangilao	$22,302	$16,456	$8,618
Mongmong-Toto-Malte	$23,447	$16,198	$9,041
Piti	$26,934	$19,342	$8,297
Sinajana	$22,688	$17,089	$7,625
Southern	$19,424	$17,171	$7,574
Agat	$19,121	$16,275	$6,729
Inarajan	$18,585	$16,375	$6,418
Merizo	$19,839	$16,515	$8,319
Santa Rita	$17,942	$16,594	$7,417
Talofofo	$20,477	$17,055	$8,484
Umatac	$17,877	$16,646	$6,593
Yona	$23,302	$20,071	$9,421

Source: U.S. Bureau of the Census Summary Tape File 3A, Tables 9, 10, 70, 77, 82, and 83

TYPES OF INCOME

Table 12.3 shows comparable data on type of family income by region for the year before the census for the 1970 and 1980 decennial censuses. The dollar amounts are in 1979 dollars, that is, the 1969 amounts have been adjusted for inflation.

Between 1969 and 1979 the amount of money income earned from wages and salaries on Guam increased by a very small amount, from $17,900 to $18,200. Central region experienced the biggest increase in real income, from $17,500 in 1969 (less than the mean for Guam as a whole) to $18,900 in 1979). Southern region also experienced a real gain in income, from $16,800 in 1969 to $17,400 in 1979, an amount that was still about $800 less than the mean for all of Guam. Families in the Northern region, on the other hand, had a decrease of about $1000, from $19,000 to $18,000 during the decade.



Mean Wage and Salary Income in 1979

Non-farm income was about the same in 1969 as in 1979, although both Northern and Southern regions saw substantial decreases in mean non-farm income, while Central region had an even larger increase in this type of income, averaging almost $5,000 for those families receiving this type of income. On the other hand, for all of Guam, farm income decreased precipitously. While the average farm family in 1969 received about $5,200 for farm products, by 1979 this amount had decreased to only 2,000, more than a 50 percent decrease in 1979 dollars. Data by region were not available since there were too few farmers in the election districts (there were 93 families with farm income in 1969).

The amount of social security income increased for Guam, and for each of the regions between 1969 and 1979, while public assistance income decreased for Guam, and Central region. Families in Central region in 1979 receiving public assistance received about $1000 less than those receiving assistance in 1969, although the number and composition of the families changed during the decade. Finally, the amount of "other" income increased for Guam and for the regions between 1969 and 1979.

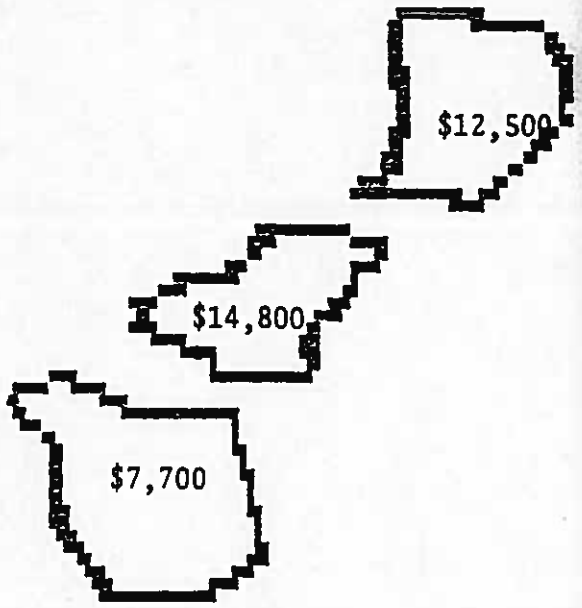
Table 12.3. Mean Income by Type of Income in 1969: 1970
(Values in 1979 dollars)

Election District	Wage & Salary	Non-farm	Farm	Social Security	Public Assist.	All Other
1969						
Guam	$17,927	$12,225	$5,154	$3,087	$2,639	$4,075
Northern	$18,960	$13,582	(NA)	$3,141	$2,055	$3,918
Central	$17,509	$10,014	(NA)	$3,251	$3,207	$4,432
Southern	$16,824	$8,953	(NA)	$2,862	$2,623	$3,685
1979						
Guam	$18,195	$12,556	$2,049	$3,342	$2,344	$5,758
Northern	$18,023	$12,526	$2,367	$3,210	$2,247	$6,223
Central	$18,945	$14,827	$2,444	$3,488	$2,221	$5,692
Southern	$17,442	$7,743	$1,353	$3,321	$2,612	$5,116

Source: U.S. Bureau of the Census, PC(1)-B54, 1970, Table 16, and Summary Tape File 3, Tables 71 and 72

The wage and salary category had the highest mean incomes reported, showing Guam's strong private sector and government sector during 1979 (Table 12.4). The mean income from wages and salary was $18,195. The highest mean occurred in the Central region at $18,945, with Piti being the village having the highest mean at $22,318. While the Southern region mean for wage and salary was $17,442, the village of Yona was the highest at $20,802.

Non-farm income was second to wages and salary with a mean income of $12,556. Nonfarm self-employment income includes net income less expenses derived from a business enterprise or business activity. The majority of business activities fall in the retail, professional and related services and public administration area. Central region had the highest mean non-farm income at $14,827 compared to the overall average of $12,556. The village of Mongmong-Toto-Maite had the highest non-farm income at $21,845. (The key business categories in this particular region were in the professional and related services, public administration and, particularly, retail trade, all of which produce relatively high incomes). Southern villages had a mean of $7,743. The majority of income earnings fell in the public administration category, professional and related services and retail trade. A total of 14 of the 19 villages fell below the overall non-farm average.



Mean Non-farm Income in 1979

Table 12.4. Mean Income by Type of Income in 1979: 1980

Election District	Wage & Salary	Non-farm	Farm	Interest	Social Sec.	Publ. Asst.	All Other
Guam.....	$18,195	$12,556	$2,049	$2,235	$3,342	$2,344	$5,758
Northern.....	$18,023	$12,526	$2,367	$1,955	$3,210	$2,247	$6,223
Dededo.....	$18,605	$9,484	$1,841	$1,590	$3,259	$2,442	$6,292
Tamuning....	$17,946	$15,523	$2,798	$2,884	$2,920	$1,975	$6,276
Yigo.....	$16,945	$10,136	$2,442	$1,398	$3,732	$2,017	$5,897
Central.....	$18,945	$14,827	$2,444	$2,893	$3,488	$2,221	$5,692
Agana.....	$19,742	$11,726	$498	$7,190	$3,163	$1,137	$6,104
Agana Hts...	$18,450	$7,484	$15,589	$3,103	$3,774	$2,033	$6,364
Asan.....	$21,207	$9,185	$2,192	$2,341	$2,940	$2,534	$6,213
Barrigada...	$19,472	$16,811	$711	$2,428	$3,504	$2,202	$4,942
Chalan Pago/ Ordot.....	$18,797	$16,902	$517	$2,805	$3,975	$2,672	$5,984
Mangilao;...	$18,161	$14,875	$1,465	$2,382	$3,506	$2,736	$5,085
Mong-Toto-Maite.....	$17,726	$21,845	$985	$3,426	$3,381	$1,830	$6,072
Piti.....	$22,318	$16,524	$2,905	$1,696	$3,135	$1,650	$6,978
Sinajana....	$18,383	$10,801	$822	$3,936	$3,303	$1,831	$5,006
Southern.....	$17,442	$7,743	$1,353	$1,886	$3,321	$2,612	$5,116
Agat.....	$17,424	$8,976	$923	$2,581	$3,533	$2,412	$5,523
Inarajan....	$16,305	$10,330	$859	$897	$3,197	$2,534	$5,029
Merizo.....	$16,186	$7,155	$1,400	$1,062	$3,063	$2,555	$5,688
Santa Rita..	$16,493	$6,203	$752	$1,228	$3,153	$2,513	$4,739
Talofofo....	$17,885	$10,477	$3,694	$2,503	$3,663	$2,882	$6,169
Umatac.....	$15,544	$5,165	$318	$2,692	$3,880	$2,231	$6,360
Yona.....	$20,802	$8,069	$1,505	$4,887	$3,126	$2,834	$4,427

Source: U.S. Bureau of the Census Summary Tape File 3A, Tables 71 and 72

The mean income for farming activities in 1979 was $2,049. Farming practices have shown some erratic patterns in the past which to some extent continue today (See the discussion of Agricultural censuses in Chapter 11). Table 12.4 shows Agana Heights having the highest mean income at $15,589, which is 661 percent higher than the overall mean farm income. Several conclusions can be drawn as to how this income reporting can occur. Since place of residence and actual farm sites are not distinguished by census reports, although the South would be expected to have the majority of farms, since persons are reported where they live rather than where they farm, this assumption may not hold true in the case of farm self-employment income. Agana had the lowest mean farm income at $498. The village of Talofofo was second with a mean income of $3,694 and Tamuning third at $2,798. It is true, however, that the Southern district seems to be experiencing a resurgence in farming activities which may eventually be reflected in the net money income earnings and farm size. Some changes in farming practices have been seen in farm management, particularly in partnership arrangements which allow

farmers and part-time farmers an opportunity to expand and share common resources and interest.

Mean interest income in 1979 was $2,235, with Agana having the highest village mean ($7,190) and Yona being second ($4,887). No comparative data for 1969 were available; presumably interest income was included in the "other" category, which would indicate that the increase in the combination of interest and "other" income is even more than that shown in Table 12.4. As financial services and private investments improve, interest earnings may continue to show some dramatic shifts in the regions. With the advent of foreign capital, manifested in real estate acquisition, local land owners who sell property at increased values, to an extent, place themselves in a higher level of disposable income. Thus, investment interests in financial services increase and investment brokers accommodate the trends in capital earned through investment, both local and foreign. Net income from rental of property also continues to increase due to the competitiveness of Guam's real estate market. However, real estate is finite and restricted to available land and infrastructure resources; interest earnings become subjected to changes in the economy and may or may not be a major factor in the types of income reported.

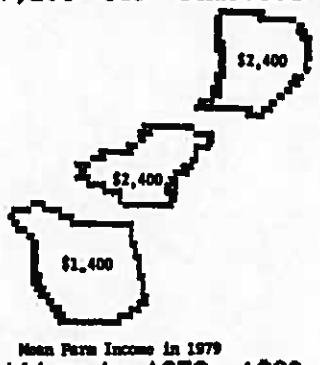
The mean social security income reported in 1979 was $3,342. As noted earlier, this figure was about 10 percent more than the 1969 figure; because Guam has a relatively young population, the full impact of social security income has yet to be felt. With an aging population, however, the elderly will become more dependent on pension and survivor benefit earnings. Chamorros currently represent the bulk of potential recipients of Guam's welfare assistance programs. Although the traditional way of accommodating Guam's elderly within the extended family structure remains, planning for future elderly accommodations and services must exist concurrently. Although only 3 percent of the population was 65 years or older in 1980, the proportion is likely to increase as the population ages. Also, the Micronesians whose political status allows them to migrate, will be eligible for Guam's programs. These factors may become concerns as the various sub-populations move into the labor force, work, and then retire.

While social security earnings had a higher mean of $3,342 for Guam, recipients in 1979 for public assistance earned a mean of $2,344. Public Assistance expenditures totalled $4,919,283 in 1979. Steady support of Guam's senior citizens will continue in the years ahead particularly in services targeted to the elderly with the greatest economic needs. A variety of services will be offered to cater specifically to this group. Health care and welfare recipients will continue to see public assistance programs and services increase.

All other income had a mean of $5,758 in 1980, with the Northern region having a slightly higher mean of $6,223. The village with the highest "all other income" mean was Piti, with $6,978; the lowest mean was in Yona, at $4,427. All other income is a "catch-all" category, encompassing income from veteran's payments, public or private pensions, alimony, child support, periodic receipts from annuities or trust funds, and other periodic income other than earnings; the recipients of such earnings are not easily stratified by demographic factors such as age and sex. That is, there is no one group that would be more likely to receive such income than another group, as would be the case of social security income or farm income.

Although the mean family income in 1979 was almost $18,000, there were large differences, depending on the number of workers per family (Table 12.5). There was a direct correlation between the number of workers per family and mean family income. The mean income for families with no workers was $5,732, and for one worker was $13,940. However, the mean was $21,935 for two worker families, $29,699 for three worker families, and $37,235 for families with 4 or more workers.

Except for families with no workers, families in the Central region earned more money than those in the North or the South. In two worker families the Central region families earned more than $2000 more, more than $3000 more in three worker families, and more than $5000 more in families with 4 or more workers.



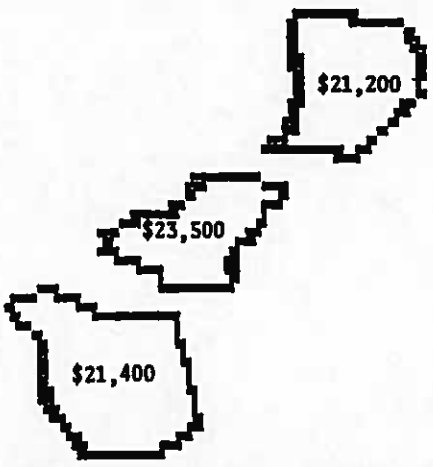
Mean Farm Income in 1979

Table 12.5. Mean Income of Workers in Families in 1979: 1980

Election District	No Workers	1 Worker	2 Workers	3 Workers	4 Workers
Guam.....	$5,732	$13,940	$21,935	$29,699	$37,235
Northern.....	$6,490	$13,911	$21,158	$28,873	$35,266
Central.....	$5,546	$14,527	$23,530	$31,912	$40,749
Southern.....	$4,812	$13,240	$21,369	$28,244	$35,645
NUMBER OF FAMILIES					
Guam.....	1243	7871	9821	1834	1011
Northern.....	470	3593	4722	878	446
Central.....	484	2405	3034	577	348
Southern.....	289	1873	2065	379	217

Source: U.S. Bureau of the Census Summary Tape File 3A, Tables 79 and 80

There were also differences in family income by workers in families for the election districts. Agana had the highest income for 2 worker families, Asan for 3 worker families, and Barrigada for 4 worker families (Table 12.6).



Mean Income of 2 Worker Families

Table 12.6. Mean Income of Workers in Families in 1979: 1980

Election District	No Workers	1 Worker	2 Workers	3 Workers	4 or more Workers
Guam.....	$5,732	$13,940	$21,935	$29,699	$37,235
Northern.....	$6,490	$13,911	$21,158	$28,873	$35,266
Dededo.....	$7,439	$14,035	$20,972	$28,369	$34,759
Tamuning.....	$5,470	$14,422	$22,686	$29,981	$36,081
Yigo.....	$5,748	$12,923	$19,836	$28,596	$36,291
Central.....	$5,546	$14,527	$23,530	$31,912	$40,749
Agana.....	$5,990	$14,478	$31,130	$28,930	$43,734
Agana Heights.....	$8,286	$15,824	$22,607	$31,899	$36,029
Asan.....	$6,772	$17,231	$23,697	$36,584	$38,771
Barrigada.....	$4,534	$13,929	$22,977	$31,649	$49,551
Chalan Pago/Ordot....	$5,963	$14,337	$23,430	$32,112	$37,063
Mangilao.....	$5,920	$13,801	$22,499	$29,974	$36,115
Mongmong-Toto-Malte..	$3,796	$14,125	$23,220	$36,072	$42,601
Piti.....	$4,407	$17,798	$29,741	$27,509	$35,171
Sinajana.....	$5,949	$13,255	$23,551	$29,179	$35,825
Southern.....	$4,812	$13,240	$21,369	$28,244	$35,645
Agat.....	$4,444	$13,893	$22,294	$25,333	$33,773
Inarajan.....	$4,305	$12,007	$20,044	$25,878	$31,453
Merizo.....	$6,476	$13,381	$22,254	$26,672	$36,090
Santa Rita.....	$4,535	$12,688	$19,194	$30,156	$38,101
Talofofo.....	$4,654	$14,132	$22,102	$29,509	$29,833
Umatac.....	$6,652	$13,279	$19,566	$21,965	$27,894
Yona.....	$4,893	$14,272	$26,349	$31,801	$41,269

Source: U.S. Bureau of the Census Summary Tape File 3A, Tables 79 and 80

PER CAPITA INCOME

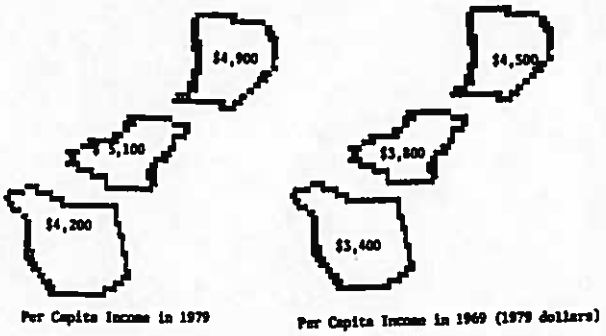
Per capita income is the measure of the average income per person in an area or population and is derived by determining the income of all persons from all sources and dividing by the total number of persons in the area or population. The per capita income on Guam in 1979 as determined by the 1980 census was $4793 (Table 12.7). The per capita income in the United States for 1979 was $7,298, so Guam's per capita income was only 66 percent of that for the U.S. In 1969, the per capita income for Guam was $2008 ($3,936 in 1979 dollars). Per capita income in the United States for 1969 was $3,119 ($ 6,176 in 1979 dollars). The change in per capita income between 1969 and 1979 was 22 percent.

Table 12.7. Per Capita Income in 1969 and 1979: 1970 and 1980
(Values in 1979 dollars)

Election District	1979		1969	
	Persons	Income	Persons	Income
Guam	105,979	$4,793	84,996	$3,976
Northern	47,583	$4,871	32,540	$4,490
Dededo	23,644	$4,297	10,780	$4,166
Tamuning	13,580	$5,898	10,218	$4,960
Yigo	10,359	$4,834	11,542	$4,378
Central	34,526	$5,095	31,266	$3,830
Agana	896	$6,565	2,119	$5,007
Agana Heights	3,284	$5,312	3,156	$4,493
Asan	2,034	$5,791	2,629	$4,112
Barrigada	7,756	$5,046	6,356	$3,162
Chalan Pago/Ordot	3,120	$4,044	2,931	$2,772
Mangilao	6,840	$4,808	3,228	$3,716
Mongmong-Toto-Maite	5,245	$4,788	6,057	$4,768
Piti	2,866	$7,029	1,284	$2,822
Sinajana	2,485	$4,382	3,506	$3,257
Southern	23,870	$4,200	21,190	$3,404
Agat	3,999	$3,737	4,308	$3,180
Inarajan	2,059	$3,295	1,897	$2,154
Merizo	1,663	$3,796	1,529	$2,433
Santa Rita	9,183	$4,672	8,109	$4,453
Talofofo	2,006	$3,747	1,935	$2,820
Umatac	732	$3,028	813	$2,303
Yona	4,228	$4,631	2,599	$2,764

Source: U.S. Bureau of the Census, STF3A, 1980, Table 85, and PC(1)-B54, 1970, Table 16

Northern region had the highest per capita income in 1969 at $4,500, about $500 more than for Guam as a whole. While Central region's per capita was close to the Guam average, the Southern region average was about $500 less than the Guam average. The $500 discrepancy for Southern region continued in 1979, but Central region at $5,100 surpassed Northern region (at $4,900).



In 1969, Agana and Tamuning had the highest per capita incomes ($5,000). Mongmong-Toto-Maite was third highest at $4,800. In 1979, Piti had the highest per capita income at $7,000, almost three times its 1969 value. Since Piti's dependency ratio (the ratio of dependents to workers) was only 30, compared to about 60 for the territory as a whole, this high value is not too surprising. The

large number of military personnel probably contributed to the higher value. Agana continued to have the second highest per capita rate ($6,565), and Tamuning was third ($5,900).

PERSONAL INCOME

Tables on income of persons by sex show some differences in income received by males and females. Of the 36,408 males 15 years and over, 31,486 (86 percent) had income in 1979 (Table 12.8 and Figure 12.1). For females, only 19,481 of the 32,599 (60 percent) had income. The median for all individuals in 1979 was $8392: $9,926 for males and $6,133 for females.

The mean income data were similar, but were slightly higher for males. The mean income for all individuals for 1979 was $9,965, $11,835 for males and $6,942 for females. Of the total females with income, 16 percent fell within the $7,000 to $9,999 category compared to 19 percent for the males. The largest category for males (23 percent) was the $10,000 to $14,999 category.

Table 12.8. Income of Persons in 1979 by Sex: 1980

	Numbers			Percent		
Income	Total	Males	Females	Total	Males	Females
Total.....	69,007	36,408	32,599	...	...	...
With income.	50,967	31,486	19,481	100.0	100.0	100.0
$1 to $499/loss.	1,691	617	1,074	3.3	2.0	5.5
$500 to $999....	2,162	801	1,361	4.2	2.5	7.0
$1000 to $1999..	2,842	1,076	1,766	5.6	3.4	9.1
$2000 to $2999..	2,320	857	1,463	4.6	2.7	7.5
$3000 to $4999..	4,460	1,892	2,568	8.8	6.0	13.2
$5000 to $6999..	7,453	4,574	2,879	14.6	14.5	14.8
$7000 to $9999..	9,690	6,075	3,615	19.0	19.3	18.6
$10000 to $14999	10,188	7,237	2,951	20.0	23.0	15.1
$15000 to $24999	7,680	6,115	1,565	15.1	19.4	8.0
$25000 or more..	2,481	2,242	239	4.9	7.1	1.2
Median.....	$8,392	$9,926	$6,133	...	...	...
Mean.....	$9,965	$11,835	$6,942	...	...	...

Source: U.S. Bureau of the Census PC80-1-C/D54, Table 46

Table 12.9 shows median and mean income by birthplace. About 64 percent of those earning income in 1979 were not born on Guam, reflecting certain programs such as the construction industry's use of contract workers having H-2 status. These same workers increased the mean income for non-Guam born workers to $10,219 compared to the $9,504 for workers with income who were born on Guam. Other influences on these figures include the military as well as firms having expatriates to run corporate subsidiary operations.

Figure 12.1 Mean and Median Income by Sex: 1980

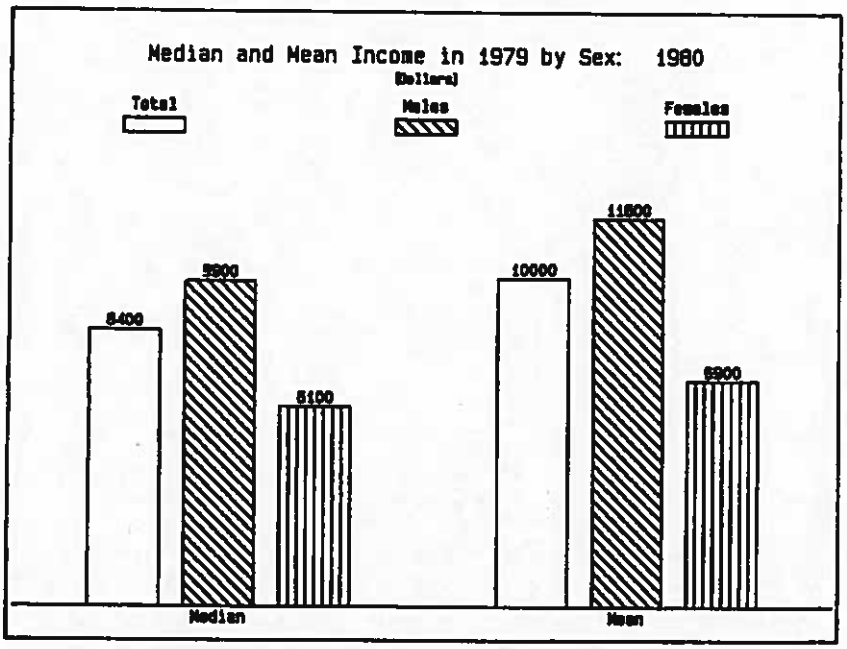


Table 12.9. Income of Persons in 1979 by Birthplace: 1980

Income	Birthplace			Percent		
	Total	Guam	Not-Guam	Total	Guam	Not-Guam
Total.....	69,007	26,944	42,063	...	...	...
With income.....	50,967	18,085	32,882	100.0	100.0	100.0
$1 to $499/loss.	1,691	787	904	3.3	4.4	2.7
$500 to $999....	2,162	1,161	1,001	4.2	6.4	3.0
$1000 to $1999..	2,842	1,308	1,534	5.6	7.2	4.7
$2000 to $2999..	2,320	934	1,386	4.6	5.2	4.2
$3000 to $4999..	4,460	1,649	2,811	8.8	9.1	8.5
$5000 to $6999..	7,453	1,685	5,768	14.6	9.3	17.5
$7000 to $9999..	9,690	3,181	6,509	19.0	17.6	19.8
$10000 to $14999	10,188	3,823	6,365	20.0	21.1	19.4
$15000 to $24999	7,680	2,927	4,753	15.1	16.2	14.5
$25000 or more..	2,481	630	1,851	4.9	3.5	5.6
Median.....	$8,392	$8,510	(NA)	...	...	...
Mean.....	$9,965	$9,504	$10,219	...	...	...

Source: U.S. Bureau of the Census PC80-1-C/D57A, Table 47

About 7 in every 10 persons 25 years and over and receiving income in 1979 were high school graduates (Table 12.10 and Figure 12.2). The percentage for males and females was the same. Except for the very low income levels (which may have been affected by low numbers), there was a direct correlation between income

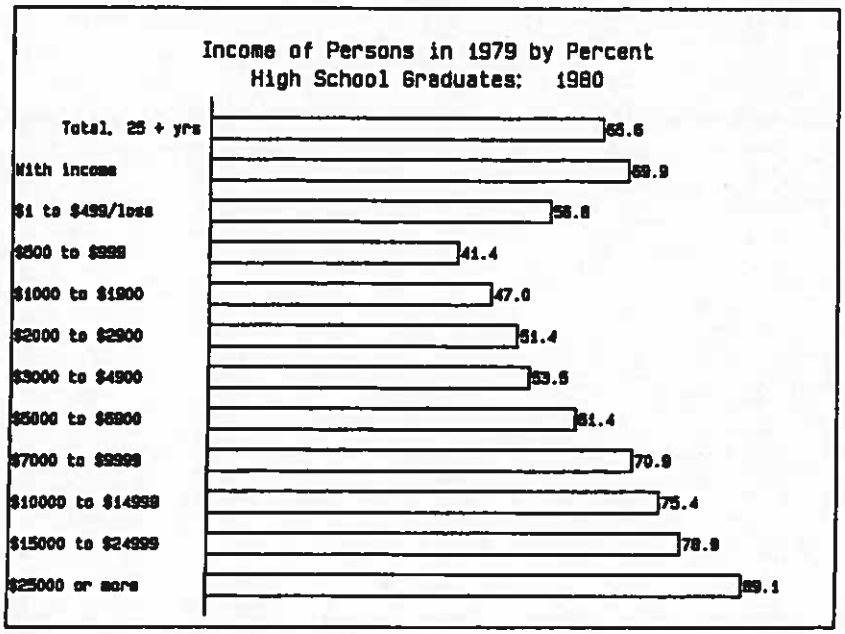
level and percent high school graduate. These trends held for both males and females.

Table 12.10. Income of Persons in 1979 by Percent High School Graduates:1980

Income	Numbers			Percent High School Grads		
	Total	Males	Females	Total	Males	Females
Total, 25+ yr	46,906	24,540	22,366	65.6	69.2	61.6
With income.....	37,618	23,474	14,144	69.9	70.3	69.2
$1 to $499/loss.	717	153	564	56.8	49.8	58.7
$500 to $999....	1,038	271	767	41.4	36.9	43.0
$1000 to $1999..	1,478	1,336	142	47.0	46.9	48.3
$2000 to $2999..	1,351	445	906	51.4	48.5	52.8
$3000 to $4999..	2,764	1,025	1,739	53.5	48.1	56.7
$5000 to $6999..	3,649	1,744	1,905	61.4	58.9	63.7
$7000 to $9999..	7,350	4,535	2,815	70.9	69.8	72.7
$10000 to $14999	9,352	6,700	2,652	75.4	70.9	86.7
$15000 to $24999	7,479	5,949	1,530	78.9	75.3	92.9
$25000 or more..	2,440	2,216	224	89.1	90.0	80.4

Source: U.S. Bureau of the Census PC80-1-C/D54, Table 49

Figure 12.2 High School Graduates by Income Level: 1980
(Percent)



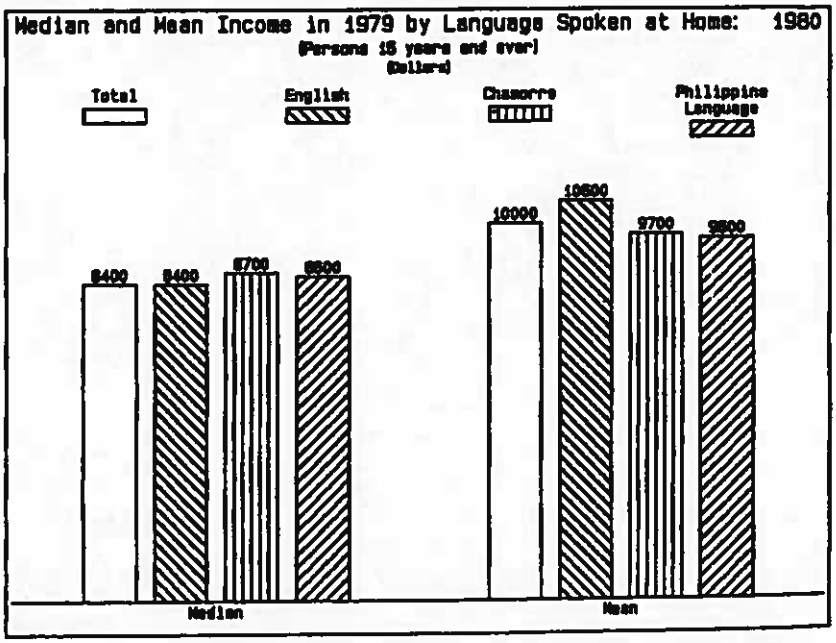
In 1979, Chamorro speakers had the highest median income, followed by those who spoke a Philippine language (Table 12.11 and Figure 12.3). English speakers had the lowest median income, but the highest mean income. This was more than likely caused by over 7 percent of those who spoke English being in the income category of $25,000 or more, compared to only 4 percent of Chamorro speakers and 2 percent of Philippine language speakers.

Table 12.11. Income of Persons in 1979 by Language Spoken at Home: 1980

Income	Language				Percent			
	Total	English	Chamorro	Phil. lang.	Total	English	Chamorro	Phil. lang.
Total.....	69,007	20,222	24,610	13,804	...	...	...	...
With income.....	50,967	15,866	17,001	10,202	100.0	100.0	100.0	100.0
$1 to $499/loss..	1,691	567	673	227	3.3	3.6	4.0	2.2
$500 to $999.....	2,162	594	997	323	4.2	3.7	5.9	3.2
$1000 to $1999...	2,842	761	1,173	477	5.6	4.8	6.9	4.7
$2000 to $2999...	2,320	634	852	465	4.6	4.0	5.0	4.6
$3000 to $4999...	4,460	1,202	1,563	958	8.8	7.6	9.2	9.4
$5000 to $6999...	7,453	2,692	1,615	1,432	14.6	17.0	9.5	14.0
$7000 to $9999...	9,690	3,025	3,016	2,182	19.0	19.1	17.7	21.4
$10000 to $14999.	10,188	2,937	3,690	2,227	20.0	18.5	21.7	21.8
$15000 to $24999.	7,680	2,292	2,819	1,652	15.1	14.4	16.6	16.2
$25000 or more...	2,481	1,162	603	259	4.9	7.3	3.5	2.5
Median.....	$8,392	$8,369	$8,703	$8,560	...	...	...	...
Mean.....	$9,965	$10,579	$9,676	$9,575	...	...	...	...

Source: U.S. Bureau of the Census PC80-1-C/D54, Table 48

Figure 12.3 Mean and Median Income by Language Spoken at Home: 1980



POVERTY

Families and individuals are classified as being above or below the poverty level using the poverty definition developed at the Social Security Administration in 1964 and revised in 1969 and 1980. The poverty index was based solely on money income and did not reflect the fact that many low-income persons received non-cash benefits such as food stamps, medicaid and public housing. The weighted average poverty level based on money income used for 1980 is shown in Table 12.12.

Table 12.12 Weighted Average Poverty Levels Based on Money Income for Families and Individuals: 1980

	Size of Unit									
	1			2						
	Total	<65	65+	Total	<65	65+	3	4	5	6	7+
Income.....	4190	4290	3949	5363	5537	4983	6565	8414	9966	11269	13995

Source: U.S. Bureau of the Census, Statistical Abstract of the United States: 1984 (104th edition).

In 1979, there were 101,539 persons on Guam for whom poverty status was determined (all persons who were not in group quarters) (Table 12.13). Of this number, 16 percent were below poverty level; 11 percent of whom were in "extreme poverty", below 75 percent of poverty level. Nearly 50 percent of those in the poverty universe were below 200 percent of poverty level.

Table 12.13. Poverty Status in 1979: 1980

Poverty Status	Number	Percent
Total in Poverty Universe.....	101,539	100.0
Below 75 Percent of Poverty Level....	10,667	10.5
Below Poverty Level.....	16,571	16.3
Below 125 Percent of Poverty Level...	25,338	25.0
Below 150 Percent of Poverty Level...	34,313	33.8
Below 200 Percent of Poverty Level...	50,698	49.9

Source: U.S. Bureau of the Census Summary Tape File 3A, Table 95.

There were 21,780 families for whom poverty status was determined in 1979; 86 percent were above poverty level, the remainder below (Table 12.14). Of those above poverty level, 76 percent had related children in the family; for those below poverty level, 88 percent of families had related children. Fully 7 percent of families above poverty level were headed by a female householder with no husband present; this figure was over 35 percent for those families below poverty level. Female householders below poverty level had related children in the family in 92 out of 100 homes.

Table 12.14. Percent Families by Type by Poverty Status in 1979 by Children: 1980

Families	Total		Female Householder, No Husband Present	
	Income Above Poverty	Income Below Poverty	Income Above Poverty	Income Below Poverty
Total.....	18770	3010	1352	1063
Percent.....	100.0	100.0	100.0	100.0
With related children	75.8	87.8	77.0	91.1
Under 6 yrs and 6-17 yrs	23.7	35.4	19.9	33.6
Under 6 years.....	21.1	24.2	15.2	22.9
6 to 17 years only.	31.0	28.2	41.9	34.6
Without related children...	24.2	12.2	23.0	8.9

Source: U.S. Bureau of the Census Summary Tape File 3A, Table 86

For families with related children (Table 12.15), and above poverty level, regardless of whether the householder was male or female with no husband present, the majority (41 and 54 percent, respectively), had children who were between 6 to 17 years old. Of all families with income below poverty, the majority (40 percent) had children who were either under 6 years, or 6 to 17 years old; female householders below poverty were nearly equally split between having children under 6 years old or 6 to 17 years (37 percent), or only between 6 to 17 years old (38 percent).

Table 12.15. Families by Type by Poverty Status in 1979 by Children: 1980

Families	Total		Female Householder, No Husband Present	
	Income Above Poverty	Income Below Poverty	Income Above Poverty	Income Below Poverty
Total.....	...	...	...	...
With related children.	100.0	100.0	100.0	100.0
Under 6 yrs and 6-17 yrs.	31.2	40.4	25.8	36.9
Under 6 years.....	27.9	27.5	19.8	25.1
6 to 17 years only.....	40.9	32.1	54.4	38.0
Without related children...	...	...	...	...

Source: U.S. Bureau of the Census Summary Tape File 3A, Table 86

SUMMARY

Median income of unrelated individuals in 1979 was shown to be lower than median income of both households and families; mean income of households was

higher than either family or individuals. Wage and salary income was the highest mean income type; farm income was the lowest. The Central region had the highest mean income for all types except for Public Assistance (Southern region was highest) and All Other income (Northern region ranked first). Each increase in the number of workers in families by 1 increased the income by between 6 to 8 thousand dollars.

Per capita income for the island was $4,793 in 1979, compared to $7,298 for the U.S. Per capita income on Guam increased by 22 percent between 1969 and 1979 when adjusted for inflation. While 20 percent of all persons with income and 23 percent of males with income earned between $10,000 and $14,999 in 1979, only 15 percent of females with income did so; their most frequently earned income was between $7,000 and $9,999. Over 7 percent of males and 5 percent of all persons earned $25,000 or more in 1979; only 1 percent of females did so. Guam born persons had a mean income of $9,504, lower than either all persons ($9,965) or the non-Guam born ($10,219). High school graduates and English speakers were more frequently represented in the higher income brackets than non-graduates and speakers of other languages.

Fully 16 percent of Guam's population were considered as being below poverty level in 1979, while nearly 50 percent were below 200 percent of poverty status. The majority of these families had children, most of whom were under 6 to 17 years of age.

CHAPTER 13
ESTIMATES AND PROJECTIONS

Population and housing censuses, the crucial source of data on the size, structure and distribution of population and housing, are taken at regular intervals. They involve a great deal of planning, enumeration, compilation, analysis, publication, and require tremendous expenditures of money and human energy. They also require considerable time to make available the details of information collected at a certain point in time. Since the Government of Guam needs the most up-to-date information about the size and structure of the population in order to make reasonable plans for development, estimates of the population between censuses are needed. Data from Censuses, surveys, and other statistical data can be used to make estimates in between complete population counts. Projections are also made based on these data to help understand future needs. The government uses estimates and projections for its planning, but is not the only user of population estimates and projections, since social service organizations, university and social research centers, market research centers, and business organizations often also need estimates and projections for their own purposes.

Estimates for current populations and projections for the future help planners by providing them with likely consequences of current trends.

In this chapter we discuss post-censal estimates and projections for the years following the 1980 census. Estimates and projections are based on factual information as well as assumptions. The accuracy of the estimates, therefore, depends on the accuracy of the available data and assumptions. Furthermore, when projections of a population are made for some future date, they are based on certain assumptions as to the likely course of vital events. The components of population - fertility, mortality, and migration - are likely to follow certain courses. The initial data used as the base to make the projections must be error-free. Also, we know that if the period of population projection is long, there is a greater likelihood of error in the projections because the assumptions may not hold for long periods.

The accuracy of the population estimates or projections depends on the extent to which the assumptions prove correct and not on the level of sophistication of the method of calculating the projections. Better techniques are being developed as time goes by. (Before undertaking population estimates or projections, it is important that the data be evaluated and adjusted for errors, incompleteness, and other inconsistencies).

ESTIMATES

The Population Estimates Branch staff, Population Division, Bureau of the Census used the 1980 census as base year to make annual estimates after 1980. The balancing equation, with births, deaths and net migration was used to estimate the population.

The estimates of the population of Guam were developed by adding the components of change to the relevant population base. The July 1, 1980, through 1986 estimates were derived using a base composed of the 1980 census count less the estimated population on April 1, 1980, who were born in the United States,

with the April 1, 1980 American population on Guam being estimated based on data furnished by the Guam Department of Commerce and the U.S. Department of Defense. The population base is restricted because of the large and relatively transient Federally affiliate population for which migration is substantial and difficult to estimate. Rather than estimate migration for this population group, administrative records were used to determine the number of Federally affiliated persons on each estimate date. The following were added to the relevant population base:

1. Natural increase. The excess of births over deaths to the population is based on reported birth and death statistics. Births and deaths occurring in the U.S. Naval Hospital are excluded.

2. Change in alien contract workers. This category is primarily composed of contract workers brought in from the Philippines by the Department of Defense. The estimates are based on information provided by the Guam Department of Commerce.

3. Net alien immigration. These are persons accepted for permanent residence in the United States. The estimate is based on Immigration and Naturalization Service (INS) figures on immigrants who reported on their visa applications that they intended to live on Guam. It is assumed that 40 percent of the immigrants each year either leave Guam or inaccurately reported their intention of living on Guam. This assumption is based on an analysis of expected versus actual change in the alien population between 1970 and 1980. Expected change was derived from INS records on immigrants and naturalizations plus the change in alien contract workers (recorded in item 2 above). Actual change was based on the net change in the annual alien registration data collected by INS until 1982.

4. Federally affiliated population. The number of Armed Forces stationed on Guam was obtained from the U.S. Department of Defense. The Guam Department of Commerce provided data on the numbers of Federal civilian employees and dependents of both Federal civilian employees and the military.

5. Guamanian inductions less discharges. The number of persons in the Armed Forces in the United States who lived on Guam before joining the military is available from the Department of Defense. One half the change in pre-service residence on Guam was used to approximate inductions less discharges on Guam.

No data are available on the movement of the nonfederally affiliated population who are not covered above, but this component of net migration is assumed not to be large.

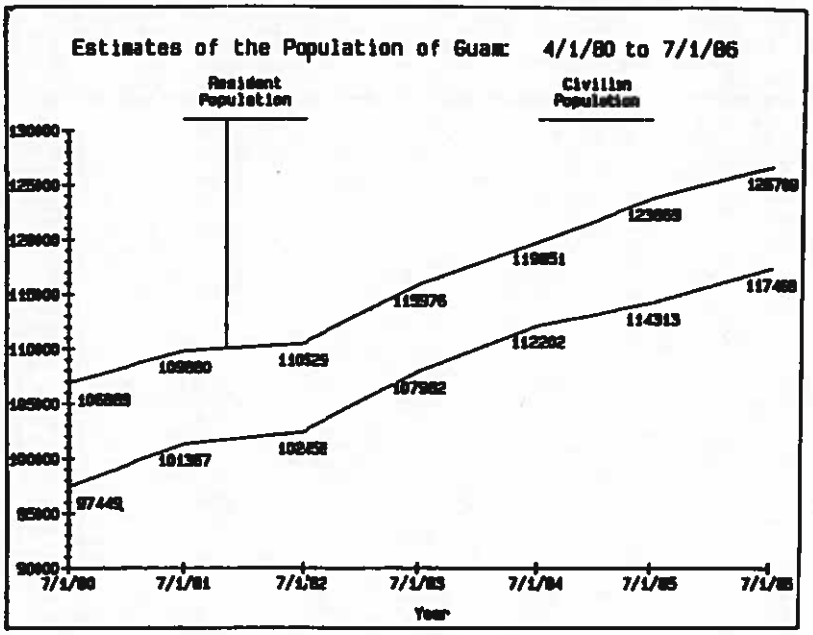
Limitations of the Estimates. The estimates are based on the special estimating method described above which yields point estimates of the various subcategories of the population. The test of this method for the 1960-1970 period showed an overestimate of about 10 percent. This level and direction of error still existed in the estimates in 1980, when the actual 1980 census count of 105,979, was 10,272 (9.7 percent) less than the estimate. Likely explanations for this difference include the lack of accurate migration data as well as conflicting information on persons who were born in the 50 States and on the special populations employed in the current methodology.

Table 13.1. Estimates of the Population of Guam: 4/1/80 to 7/1/86

Population Group	From: 4/1/80 To: 7/1/80	7/1/80 7/1/81	7/1/81 7/1/82	7/1/82 7/1/83	7/1/83 7/1/84	7/1/84 7/1/85	7/1/85 7/1/86
Base population....	85,603	86,323	89,682	92,946	95,886	98,928	102,063
Births.....	458	2,137	2,136	2,100	2,205	2,303	2,300
Deaths.....	97	369	360	390	405	375	400
Change alien works.	0	1	114	0	0	0	0
Inductions less discharges Guam..	29	270	54	-30	-46	96	-38
Alien immigrants...	550	2,200	2,200	2,100	2,147	1,851	2,065
Alien emigrants....	220	880	880	840	859	740	826
Federal population:							
Cvln emply dpnts.	1,327	1,213	860	785	811	700	603
Armed Forces.....	9,420	8,493	8,070	7,994	7,649	9,556	9,301
AF dependents....	9,799	10,472	8,653	11,311	12,463	11,550	11,701
End: Resident pop..	106,869	109,860	110,529	115,976	119,851	123,869	126,769
Civilian pop..	97,449	101,367	102,459	107,982	112,202	114,313	117,468

Source: U.S. Bureau of the Census Unpublished Worksheets

Figure 13.1 Estimates of the Civilian and Resident Populations: Guam, 1980 to 1986



PROJECTIONS

The U.S. Bureau of the Census's Center for International Research has developed a program called RUP (Rural-Urban Projection) to do component projections for various country and sub-country populations. The projections are done by single years of age and for single years of time. The program is calendar-year oriented, meaning that vital rates and events are those occurring during the calendar year (January 1 to December 31) while the populations always refer to midyear (approximately July 1).

The series of projections presented here run from 1980 through 2030. Age specific fertility information was obtained from the 1980 census. The 1980 own children information discussed in Chapter 5 was used for the entire period, the assumption being that since fertility is already very low for Guam, it is unlikely to go much lower. Although it is likely that continued immigration will bring females with higher-than-average fertility, this is offset by the fertility of Chamorro and Filipino women born on Guam decreasing to become more like that of all women on Guam.

The Coale-Demeny Model Life Table obtained from the children ever born and children surviving in the 1980 census using the Brass procedure provided life expectancies and mortality schedules used for these runs. Since mortality was already very low in 1980 (and life expectancy high), changing mortality was not incorporated into the model.

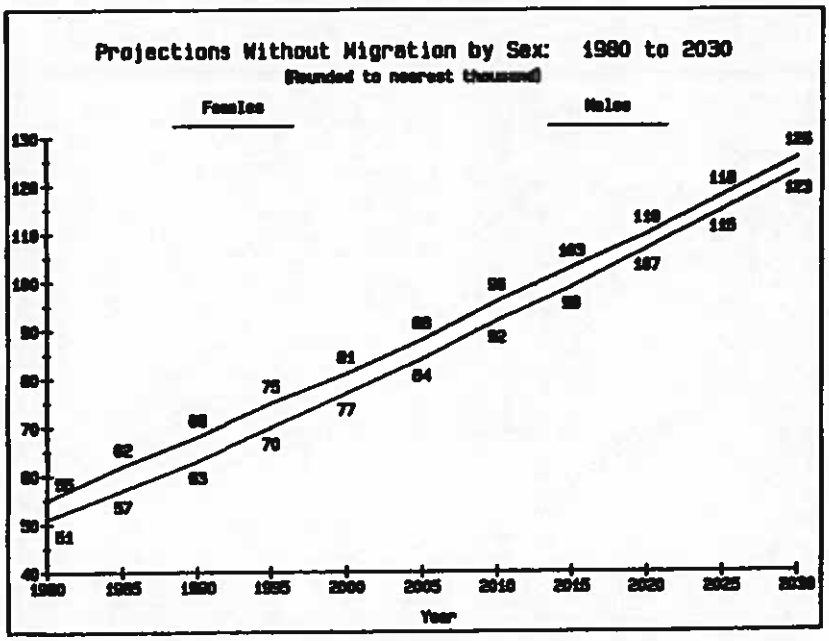
Table 13.2 shows the age specific projections for females when migration is ignored. The number of females on Guam will approximately double to about 100,000 about 2015.

Table 13.2. Projections Without Migration for Females: 1980 to 2030

Age	1980	1985	1990	1995	2000	2005	2010	2015	2020	2025	2030
Tot	50658	56849	63343	70065	77000	84187	91623	99302	107189	115238	123451
0- 4	6382	6946	7432	7902	8408	9000	9648	10319	11017	11757	12560
5- 9	6174	6370	6931	7417	7887	8392	8982	9629	10299	10993	11734
10-14	5503	6167	6364	6922	7408	7879	8383	8973	9618	10289	10981
15-19	5144	5496	6159	6357	6913	7398	7870	8370	8961	9606	10275
20-24	5089	5133	5486	6148	6346	6899	7383	7854	8354	8944	9588
25-29	5130	5075	5118	5470	6131	6328	6880	7364	7833	8331	8919
30-34	4435	5113	5058	5101	5451	6110	6306	6857	7339	7805	8302
35-39	2860	4414	5088	5032	5077	5426	6080	6277	6823	7304	7769
40-44	2399	2841	4385	5053	4996	5042	5389	6037	6236	6777	7253
45-49	2018	2372	2808	4337	4996	4939	4986	5328	5967	6165	6701
50-54	1745	1981	2330	2757	4259	4906	4849	4896	5231	5859	6054
55-59	1280	1695	1924	2265	2680	4139	4765	4709	4758	5081	5691
60-64	919	1223	1619	1835	2162	2557	3953	4546	4491	4542	4849
65-69	689	848	1129	1493	1693	1996	2359	3651	4192	4141	4190
70-74	417	598	736	980	1293	1467	1730	2044	3167	3628	3586
75-79	271	324	465	573	763	1002	1139	1345	1588	2463	2807
80 +	203	253	311	423	537	707	921	1103	1315	1553	2192

Source: U.S. Bureau of the Census Unpublished Tabulations

Figure 13.2 Projections Without Migration by Sex: 1980 to 2030



Because of the presence of the military on Guam, there will continue to be more males than females into the future (Table 13.3). Again, by 2015, there will be more than 100,000 males on the island.

Table 13.3. Projections Without Migration for Males: 1980 to 2030

Age	1980	1985	1990	1995	2000	2005	2010	2015	2020	2025	2030
Tot	55321	61581	68058	74676	81438	88380	95528	102913	110492	118224	126179
0- 4	6620	7248	7754	8244	8772	9389	10065	10766	11493	12266	13104
5- 9	6458	6599	7226	7729	8218	8746	9360	10034	10733	11456	12227
10-14	5835	6445	6585	7212	7713	8202	8729	9342	10014	10712	11433
15-19	5849	5820	6427	6569	7194	7692	8180	8703	9316	9987	10685
20-24	6019	5825	5796	6399	6541	7165	7659	8147	8668	9278	9945
25-29	5194	5989	5797	5766	6369	6507	7131	7622	8107	8626	9232
30-34	4854	5167	5959	5769	5736	6337	6474	7095	7583	8065	8582
35-39	3386	4823	5135	5920	5733	5700	6296	6433	7051	7536	8014
40-44	2650	3356	4779	5090	5866	5681	5649	6237	6374	6987	7468
45-49	2171	2611	3307	4707	5012	5779	5594	5565	6142	6278	6880
50-54	2238	2114	2542	3222	4588	4882	5632	5449	5422	5982	6119
55-59	1634	2140	2022	2433	3083	4390	4669	5387	5208	5186	5719
60-64	1008	1519	1986	1876	2260	2864	4079	4336	5005	4832	4815
65-69	729	895	1349	1759	1662	2005	2538	3620	3844	4440	4278
70-74	392	598	736	1109	1440	1363	1649	2084	2978	3154	3650
75-79	185	287	436	538	809	1041	988	1199	1512	2170	2288
80 +	99	145	222	334	442	637	836	894	1042	1269	1740

Source: U.S. Bureau of the Census Unpublished Tabulations

A second series of projections was run, but with migration included. Migration data were obtained by intercensal demographic analysis for the 1970 to 1980 period. After accounting for births and deaths to the population, residential estimates of net migration were obtained. Since there had been a large military build-up during the Vietnam War, and fewer military were living on Guam in 1980, the population had experienced net out-migration during the period. Altogether, there was a net annual outflow of 412 males and net inflow of 15 females (Table 13.4). The annual rate was -8 males per 1000 and less than 1 female per 1000.

Table 13.4. Average Annual Net Migration and Rate by Age: 1970 to 1980

Age Group	Average Annual Net Migration			Annual Migration Rate		
	Total	Males	Females	Total	Males	Females
Total	-397	-412	15	-7.68	-8.05	.37
0- 4	-104	-56	-48	-16.71	-8.82	-7.89
5- 9	-172	-83	-89	-28.16	-13.19	-14.97
10- 14	38	36	2	6.67	6.38	.29
15- 19	87	51	36	18.28	10.29	7.99
20- 24	-7	-43	36	1.56	-6.87	8.43
25- 29	130	54	76	32.35	12.51	19.84
30- 34	-77	-122	45	-16.34	-29.30	12.96
35- 39	-48	-52	4	-14.00	-15.59	1.59
40- 44	-79	-69	-10	-28.86	-24.18	-4.68
45- 49	-73	-65	-8	-34.24	-29.71	-4.53
50- 54	-36	-36	0	-20.47	-20.47	0.00
55- 59	-24	-21	-3	-18.82	-15.85	-2.97
60- 64	-9	-6	-3	-12.01	-8.19	-3.82
65- 69	-3	-1	-2	-6.96	-2.61	-4.35
70- 74	-4	0	-4	-14.26	-.97	-13.29
75+	-16	1	-17	-44.38	3.93	-48.31

Source: Office of Vital Statistics, Department of Public Health and Social Service, Guam

Since females experience net in-migration their projected totals are greater than without migration (Table 13.5). By 2015, there would be about 5,000 more females when migration is included in the package than when it is excluded.

Table 13.5. Projections with Migration for Females for Age: 1980 to 2030

Age	1980	1985	1990	1995	2000	2005	2010	2015	2020	2025	2030
Tot	50658	57413	64850	72670	80661	88791	97177	105954	115104	124435	133837
0- 4	6382	7007	7834	8493	8981	9474	10120	10918	11782	12636	13494
5- 9	6174	6020	6610	7388	8007	8469	8933	9543	10296	11112	11914
10-14	5503	5945	5789	6358	7109	7704	8151	8596	9182	9906	10691
15-19	5144	5611	6062	5900	6479	7247	7855	8311	8762	9360	10100
20-24	5089	5350	5834	6303	6137	6736	7534	8166	8642	9111	9732
25-29	5130	5450	5722	6245	6749	6568	7207	8063	8740	9250	9752
30-34	4435	5547	5892	6193	6755	7297	7107	7799	8724	9453	10007
35-39	2860	4584	5727	6078	6399	6972	7528	7340	8053	9008	9756
40-44	2399	2821	4522	5644	5987	6311	6872	7416	7235	7938	8881
45-49	2018	2318	2725	4371	5454	5785	6100	6639	7166	6990	7670
50-54	1745	1958	2247	2642	4237	5291	5611	5916	6441	6951	6778
55-59	1280	1681	1887	2166	2546	4084	5099	5405	5700	6208	6699
60-64	919	1203	1577	1769	2034	2389	3835	4784	5070	5350	5821
65-69	689	829	1089	1427	1599	1842	2159	3471	4324	4580	4841
70-74	417	574	690	906	1186	1326	1532	1792	2890	3587	3796
75-79	271	281	389	466	611	796	889	1034	1204	1956	2405
80 +	203	234	254	321	391	500	645	761	893	1039	1500

Source: U.S. Bureau of the Census Unpublished Tabulations

Since males experience net out-migration during the projection period, their projected populations are lower than when migration is excluded (Table 13.6). The 1970 to 1980 period may turn out to be unusual, particularly if military are moved from the Philippines to Guam at some point in the future.

Table 13.6. Projections with Migration for Males by Age: 1980 to 2030

Age	1980	1985	1990	1995	2000	2005	2010	2015	2020	2025	2030
Tot	55321	59622	64389	69232	74186	79191	84534	90433	96863	103730	110985
0- 4	6620	7297	8156	8841	9348	9863	10535	11364	12264	13155	14045
5- 9	6458	6246	6886	7698	8342	8822	9308	9943	10723	11573	12415
10-14	5835	6341	6121	6748	7548	8179	8650	9127	9749	10512	11346
15-19	5849	6066	6596	6363	7016	7848	8504	8994	9492	10139	10929
20-24	6019	5870	6094	6622	6395	7052	7888	8545	9034	9535	10190
25-29	5194	6061	5932	6146	6688	6448	7111	7956	8621	9114	9620
30-34	4854	4970	5815	5655	5877	6378	6171	6804	7608	8243	8709
35-39	3386	4303	4409	5154	5022	5213	5663	5474	6035	6749	7314
40-44	2650	3039	3866	3958	4630	4506	4679	5080	4916	5419	6059
45-49	2171	2284	2615	3331	3411	3991	3880	4031	4374	4235	4669
50-54	2238	1868	1962	2247	2859	2928	3424	3334	3460	3757	3635
55-59	1634	1952	1631	1713	1962	2497	2557	2988	2912	3021	3280
60-64	1008	1427	1705	1426	1496	1714	2181	2236	2611	2544	2640
65-69	729	872	1231	1469	1229	1291	1479	1880	1928	2254	2193
70-74	392	593	712	1002	1192	997	1052	1204	1532	1568	1835
75-79	185	287	133	521	734	868	725	767	877	1119	1146
80 +	99	146	225	338	437	596	727	706	727	793	960

Source: U.S. Bureau of the Census Unpublished Tabulations

Table 13.7 shows the projected proportion of the population which will be elderly over the next half-century. Although less than 3 percent of Guam's population was 65 years and over in 1980, the proportion will double in 25 years to 6 percent in 1005, and will be as much as 10 percent in 2030. Because fertility is low, and life expectancy is high, the proportion of the population being elderly is certain to increase substantially.

Table 13.7. Projections Without Migration for Persons 65 Years and Over: 1980 to 2030

Sex	1980	1985	1990	1995	2000	2005	2010	2015	2020	2025	2030
Tot	2985	3948	5384	7209	8639	10218	12160	15940	19638	22818	24734
%	2.8	3.3	4.1	5.0	5.5	5.9	6.5	7.9	9.0	9.8	9.9
Males	1405	1925	2743	3740	4353	5046	6011	7797	9376	11033	11959
Fmles	1580	2023	2641	3469	4286	5172	6149	8143	10262	11785	12775

Source: U.S. Bureau of the Census Unpublished Tabulations

CONCLUSIONS

As was seen in Chapter 1, Guam's population has been extremely volatile both in its count, and in its characteristics. Even populations experiencing massive migration of one sort or another, rarely see the roller coaster type changes in male-female ratios and age patterns. Since Guam has been especially influenced by

the fluctuations of the military and a great deal of Asian migration in recent years, the projections presented here have to seen as very tentative. It is very likely that the number of military will continue to ebb and flow, that Asian migration will continue, and that new migration will come from the Micronesian areas. Since the amount and characteristics of this migration is not yet known, it is not possible to account for them in the projections.

CHAPTER 14
HOUSING CHARACTERISTICS

The 1980 Census of Guam was conducted through direct enumeration. Census takers canvassed each street or road and listed each occupied and vacant housing unit. The Census takers were instructed to read the questions directly from the questionnaire in their personal interviews. One questionnaire was used per unit. The following definitions and explanations for each subject were drawn largely from various technical and procedural materials used in the collection of the data.

LIVING QUARTERS

Living quarters were classified in the census as either housing units or group quarters. Usually, living quarters were in structures intended for residential use (e.g., a one family home, apartment house, hotel or motel, boarding house, mobile home or trailer). However, living quarters may also have been in structures intended for nonresidential use (e.g., rooms in a warehouse where a night guard lives), as well as in boats, tents, vans, etc.

Housing units. A housing unit was a house, an apartment, a group of rooms, or a single room occupied as a separate living quarters or, if vacant, intended for occupancy as a separate living quarters. Separate living quarters were those in which the occupants lived and ate separately from any other persons in the building and which had direct access from the outside of the building or through a common hall. The occupants may be a single family, one person living alone, two or more families living together, or any other group of related or unrelated persons who shared living arrangements (except as described in the next section on group quarters). For vacant units, the criteria of separateness and direct access were applied to the intended occupants whenever possible. If that information could not be obtained, the criteria were applied to the previous occupants. Both occupied and vacant housing units were included in the housing unit inventory except that boats, tents, vans, caves, and the like were included only if they were occupied as someone's usual place of residence. Vacant mobile homes were included, provided they were intended for occupancy on the site where they stood.

Comparability with 1970 Census housing unit data. Although the 1980 census data were generally comparable with 1970 census data, certain changes were introduced for 1980. The part of the 1970 housing unit definition that required a unit to have either (1) direct access or (2) cooking facilities for exclusive use was modified. For 1980, the cooking facilities for exclusive use alternative was dropped, and direct access was required of all housing units. In 1970, vacant mobile homes were not counted as housing units. For 1980, they were included in the housing inventory, provided they were intended for occupancy on the site where they stood.

Group Quarters. Group quarters were any living quarters which were not classified as housing units. There were two types of group quarters: (1) institutional group quarters and (2) noninstitutional group quarters. Institutional group quarters were living quarters occupied by one or more persons under care or custody, such as children in an orphanage, persons in a nursing home, and prisoners in a penitentiary. Noninstitutional group quarters included living quarters such as college-owned dormitories, fraternities, or sorority houses, nurses dormitories, and boarding houses. In addition, noninstitutional

group quarters included any living quarters (other than those classified as institutional group quarters) which were occupied by 9 or more persons unrelated to the person listed in column 1 of the census questionnaire, or by 10 or more unrelated persons. Information on the housing characteristics of group quarters was not collected in the census.

Comparability with 1970 Group Quarters Data. In 1970, a unit was classified as group quarters if it was shared by the person in charge and 5 or more persons unrelated to him or her or if there was no person in charge, by 6 or more unrelated persons. For 1980, that requirement was raised to 9 or more persons unrelated to the person listed in column 1 of the census questionnaire or 10 or more persons unrelated to each other.

Rules for Hotels, Rooming Houses, Etc. Occupied rooms or suites of rooms in hotels, motels, and similar places were classified as housing units only when occupied by permanent residents; i.e., persons who considered the hotel as their usual place of residence or had no usual place of residence elsewhere. Vacant rooms or suites of rooms were classified as housing rooms only in those hotels in which 75 percent or more of the accommodations were occupied by permanent residents. If any of the occupants in a rooming or boarding house lived and ate separately from everyone else in the building and had direct access, their quarters were classified as separate housing units. The remaining quarters were combined. If the combined quarters contained 8 or fewer roomers unrelated to the householder, they were classified as one housing unit. If the combined quarters contained 9 or more roomers unrelated to the householder or person in charge, they were classified as group quarters.

Staff living quarters. The living quarters occupied by staff personnel within any group quarters were separate housing units if they satisfied the housing unit criteria of separateness and direct access; otherwise, they were considered as group quarters.

Year-round housing units. Data on housing characteristics in the 1980 census reports were limited to year-round housing units; i.e., all occupied units plus vacant units available or intended for year-round use. Vacant units intended for seasonal occupancy were excluded because of the difficulty of obtaining reliable data on their characteristics. Counts of the total housing inventory, however, were given for each area presented in the reports.

OCCUPANCY AND VACANCY

Occupied housing units. A housing unit was classified as occupied if it was the usual place of residence of the person or group of persons living in it at the time of enumeration, or if the occupants were only temporarily absent; e.g., away on vacation. If all the persons staying in the unit at the time of the census have their usual place of residence elsewhere, the unit was classified as vacant. A household included all the persons who occupied a housing unit as their usual place of residence. By definition the count of occupied housing units was the same as the count of households in the 1980 census of population reports.

Householder. One person in household was distinguished as the "householder". In most cases, this was the person, or one of the persons, in whose name the home was owned or rented and who was listed in column 1 of the census questionnaire.

If there was no such person in the household, any adult household member could be distinguished as the "householder".

Persons in occupied housing units. Persons in occupied housing units was the total population less those persons living in group quarters. Persons per occupied housing unit was computed by dividing the population living in housing units by the number of occupied housing units. Data are also presented separately for the population in owner-occupied and in renter-occupied housing units.

Vacant housing units. A housing unit was vacant if no one was living in it at the time of enumeration, unless its occupants were only temporarily absent. Units temporarily occupied at the time of enumeration entirely by persons who had a usual residence elsewhere were also classified vacant.

New units not yet occupied were classified as vacant housing units if construction had reached a point where all external windows and doors were installed and final usable floors were in place. Vacant units were excluded if they were open to the elements; i.e., the roof, walls, windows, and/or doors no longer protect the interior from the elements, or if there was positive evidence (such as a sign on the house or in the block) that the unit was to be demolished or was condemned. Also, excluded were quarters being used entirely for nonresidential purposes, such as a store or an office, or quarters used for the storage of business supplies or inventory, machinery, or agricultural products.

Tenure. The data on tenure were derived from the answers to question H26. A housing unit was "owner-occupied" if the owner or co-owner lived in the unit, even if it was mortgaged or not fully paid for. All other occupied units were classified "renter-occupied", including units rented for cash rent and those occupied without payment of cash rent.

Off-Base Military Housing

Off-base housing that was rented to members of the Armed Forces had to pass acceptability criteria. While an installation commander could declare a unit as substandard at any time, most followed these general guidelines:

a. The unit was within a one-hour commute by a privately-owned vehicle during rush hour or not further than 30 miles from the installation, or within other limits the installation commander set based on military necessity.
b. It was structurally sound and did not pose a health or safety hazard.
c. It had hot and cold running water, a shower or bath, and at least one flushable toilet.
d. It had a heating system or air conditioning where the climate required one.
e. It had electrical service.
f. It had the minimum number of bedrooms to assure no more that two dependents shared a bedroom.
g. It met such additional acceptability criteria as may have been determined by the installation commander.
h. The maximum acceptable housing cost was the total of Basic Allowance for Quarters plus Variable Housing Allowance or other housing allowances plus the Maximum Monthly Housing

Costs Above Allowances. Military members who had to pay more than this total were considered not acceptably housed.

1. Minimum square footage for housing units: 1 bedroom, 550 sq. ft., 2 bedrooms: 750 sq. ft., 3 bedrooms: 960 sq. ft., and 4 bedrooms: 1,190 sq. ft.

UTILIZATION

Persons. All persons occupying the housing unit were included. These persons included not only occupants related to the householder but also any lodger, roomers, boarders, roommates, wards, foster children, and resident employees who shared the living quarters of the householder. The data on "persons in units" show the number of housing units occupied by the specified number of persons.

Rooms. The data on rooms were derived from the answers to question H10. The statistics on "rooms" were in terms of the numbers of housing units with a specified number of rooms. The intent of this question was to count the number of whole rooms used for living purposes. For each unit they included living rooms, dining rooms, kitchen, bedrooms, finished recreation rooms, enclosed porches suitable for year-round use, and larger rooms. Excluded were strip or pullman kitchens, bathrooms, open porches, balconies, halls, utility rooms, or other unfinished space used for storage. A partially divided room was a separate only if there was a partition from floor to ceiling.

Persons per room. "Persons per room" was a derived measure obtained by dividing the number of persons in each occupied housing unit by the number of rooms in the unit. The figures shown refer, therefore, to the number of occupied housing units having the specified ratio of persons per room.

PLUMBING

Plumbing Facilities. Data on plumbing facilities were derived from questions H13, H14, and H15. The category "Complete plumbing in this building" consisted of units which had piped water (either hot and cold or only cold), a flush toilet, and a bathtub or shower located inside the same building as the living quarters being enumerated. "Lacking complete plumbing in this building" included those conditions when: (1) all three specified plumbing facilities were present, but the equipment was located in a different building from the living quarters even though the equipment may be on the property; (2) some but not all the facilities were present; or (3) none of the three specified plumbing facilities was present.

Data were presented separately for water supply, bathtub or shower, and toilet facilities. For units with hot and cold piped water, data were provided for the type of energy used to heat the piped water. The categories for type used were: (1) electricity; (2) gas, including underground piped gas, bottled, or tank; (3) solar energy, if the primary type of energy was a system which used the energy available in sunlight to gain and store heat; or (4) other fuels such as fuel oil, etc.

Comparability with 1970 Census Plumbing Facilities Data. In the 1970 census, only units with hot and cold or only cold piped water, a bathtub or shower, and a flush toilet inside the structure for the exclusive use of the occupants of the housing unit were classified as having complete plumbing facilities. In the 1980

census, "exclusive use" was not determined. In addition for 1980, if the unit did not have a flush toilet, the respondents were asked to identify their toilet facilities as follows: "outhouse or privy," or "other or none."

Source of Water. Data for source of water were derived from the answers to question H12. Housing units could receive their water supply from a number of sources. A common source supplying water to six or more units was classified as a "public system." The water could be supplied by a municipal water system, water district, water company, etc., or it could be obtained from a well which supplied water to six or more housing units. If the water was supplied from a well on the property or on a neighboring property serving five or fewer housing units, the units were classified as having water supplied by an "individual well." Included in this category was well water that was drawn by hand, wind drawn, or engine drawn; piped or not piped; stored in tanks or used directly from the well. A source of water could be "Catchment, tanks, or drums" in which rainwater was collected. A "public standpipe or street hydrant" was an elevated tank or a vertical storage cylinder or a street hydrant which was connected to a public system from which nearby residents drew water. The category "some other source" included water obtained privately from springs, creeks, rivers, irrigation canals, lakes, etc.

Sewage Disposal. The data on sewage disposal were derived from the answers to question H16. Housing units were either connected to a public sewer, to a septic tank or cesspool, or sewage was disposed in some other way. A public sewer could be operated by a government body or by a private organization. Small sewage treatment plants, which in some localities were called neighborhood septic tanks, were also classified as public sewers. A housing unit was considered to be connected to a septic tank or cesspool when the unit was provided with an underground pit or tank for sewage disposal. The category "other means" included housing units which disposed of sewage in some other way.

STRUCTURE

Year Structure Built. The data for year structure built were derived from question H9. "Year structure built" referred to when the building was first constructed, not when it was remodeled, added to, or converted. For a houseboat or mobile home or trailer, the manufacturer's model year was assumed to be the year built. The figures shown here relate to the number of units in structures built during specified periods and in existence at the time of enumeration.

Units in Structure. The data on units in structure were derived from question H6. A structure was a separate building that either had open space on all sides or was separated from other structures by dividing walls that extended from ground to roof. In the determination of the number of units in a structure, all housing units, both occupied and vacant, were counted. The statistics were presented for the number of housing units in structures of specified type and size, not for the number of residential buildings. Structures containing only one housing unit were further classified as detached or attached. A mobile home or trailer was classified as a one-family house detached from any other house if one or more rooms had been added or built on to it. If, however, only a porch or shed had been added, it was still classified as a mobile home or trailer. Included in the count of "Mobile homes or trailers, etc.," were units classified as tents, vans, and any other living quarters occupied as a regular place of residence that could not be classified into any of the listed categories. Boats were also included in the count of mobile homes or trailers, etc., unless they were shown as a separate category.

Type of Material Used for Outside Walls. Data for type of materials used for outside walls were derived from question H7. The enumerator obtained data on this item based on his or her observation of the outside of the structure, and on answers provided by the respondent. Units were classified according to the main type of material used in the construction of the outside walls of the structure. The categories for types of material used were: (1) "Poured concrete;" (2) "Concrete blocks," which may or may not have been covered with plaster cement; (3) " Metal," including zinc, steel, tin, etc.; (4) "Wood," including woodboard, plywood, etc.; (5) "Thatch," including palm or pandanus thatch, palm leaves, straw, etc.; and (6) "Other," for all types of construction which could not be described by any of the other specific categories.

Type of Material Used for Roof. Data for type of material used for roof were derived from the answers to question H8. Data for this item were also based on the enumerator's observation of the structure and on answers provided by the respondent. The classification identified the type of material used for the major portion of the roof covering the structure. Categories used were similar to those used in the identification of the type of material used for outside walls.

EQUIPMENT

Electric Power. The data for electric power were derived from the answers to question H19. The category "With electric power" included living quarters equipped with electric lighting even though the current may have been shut off because the unit was vacant or because the electric bills had not been paid. If the electricity was supplied by a company operated by a government body or a private organization the unit was classified as receiving power from a "public utility". When electricity was supplied by a generator owned by the household or

someone else, the unit was classified as receiving power from a "private generator". A private generator may have been operated by means of diesel oil, solar or other sources of energy.

Cooking Facilities. The data for cooking facilities were derived from the answers to question H17. This item presented the number of housing units with main cooking facilities classified by location (inside or outside the building) and type of stove. Main cooking facilities were the ones that were used most often for the preparation of meals. Units with the main cooking facilities inside or outside the building were further classified as "With electric stove," "With kerosene stove," "With gas stove," or "Other," depending on the type of stove used for cooking. The category "Other" included hotplate, fireplace, or any other type of cooking facilities available either inside or outside the building.

Comparability with 1970 Census Cooking Facilities Data. The 1970 Census cooking facilities question determined if the cooking facilities were for the exclusive use of the occupants or if they were shared by another household. For the 1980 census, the concept of "exclusive use" was dropped.

Refrigerator. The data for refrigerator were derived from the answers to question H18. The category "Mechanical" included housing units having any type of refrigerator that was operated by electricity, gas, or kerosene. The category "Ice" referred to housing units having an icebox or ice chest. The refrigerator could be located elsewhere on the property. The category "No refrigerator" consisted of units using any other type of cooling mechanism, such as a window box, a root cellar, or an open spring.

Air-Conditioning. The data on air-conditioning were derived from the answers to question H24. "Air-conditioning" was defined as the cooling of air by a refrigeration unit. Air-conditioning did not include evaporative coolers, fans, or blowers which were not connected to a refrigeration unit; however, it did included heat pumps. A "central system" was an installation which air-conditioned a number of rooms. In an apartment building, such a system might cool all apartments in the building, each apartment may have had its own central system, or there may have been several systems, each providing central air-conditioning for a group of apartments. A system with individual room controls was a central system. A "room unit" was an individual air-conditioner which was installed in a window or an outside wall and was generally intended to cool one room, although it could sometimes be used to cool more than one room.

Vehicles Available. The data for vehicles available were derived from the answers to question H25. Data for this item referred to the number of households with vehicles available at home for the use of the members of the household. Included in this item were passenger cars, pickup trucks, small panel trucks of 1-ton capacity or less, as well as station wagons, company cars, and taxicabs kept at home for use of household members. Cars rented or leased for 1 month or more; police and government cars kept at home; and company vans and trucks of 1-ton capacity or less were also included if kept at home and used for nonbusiness purposes. Dismantled cars, immobile cars used as a source of power for some piece of machinery, and vans and trucks kept at home but used only for business purposes were excluded. The statistics did not reflect the number of vehicles privately owned or the number of households owning vehicles.

Telephone in Housing Unit. The data for telephone were derived from the answers to question H21. A unit was classified as having a telephone if there was a telephone in the living quarters. Units where the respondent used a telephone located inside the building but not in the respondent's living quarters were classified as having no telephone.

Radio. The data for radio were derived from answers to question H22. Data for this item indicated the number of households having a radio set in working order or being repaired. Included as radios were all types of sets whether floor, table, or portable. Also included were individual units and units combined with televisions, phonographs, clocks, etc. Car radios, transistor sets and radios which could be operated on both battery or electric current were also included. If the household reported only having sending-receiving or crystal radio sets, the household was classified as having "No radio".

Television. The data for television were derived from the answers to question H23. This item showed the number of households having a television set in the living quarters, regardless of ownership. Only sets in working order or being repaired were considered. Included were television sets such as floor, table, built-in or portable models, or combinations with radio or record players, whether "black and white" or "color". If the household had no television set or only had television sets kept elsewhere other than the living quarters, it was classified as having "No television".

FINANCIAL

Value. The data on value were derived from question H29b. Value was the respondent's estimate of how much the property (house and lot) or condominium unit would sell for, if it were for sale. For vacant units, value was the price asked for the property.

Value and price asked were tabulated separately for certain kinds of housing units. Value statistics were presented for "specified owner-occupied" housing units and "specified vacant for sale only" housing units. These "specified" housing units included only one-family houses without a commercial establishment or medical office on the property. Mobile homes, trailers, boats, tents or vans occupied as a usual residence, and owner-occupied noncondominium units in multi-family buildings were also excluded from the value tabulations.

Rent. Data on rent were collected from all renter-occupied housing units. Respondents were asked to report rent only for the housing unit enumerated and to exclude any rent paid for additional units or for business purposes.

Contract Rent. Data on contract rent were derived from question H27. Contract rent was the monthly rent agreed to, or contracted for, regardless of any furnishings, utilities, or services that may have been included. For vacant units, it was the rent asked for the unit at the time of enumeration. Respondents were asked to report rent only for the housing unit enumerated and to exclude any rent paid for additional units or for business premises. Renter units occupied without payment of cash rent were shown separately as "No cash rent" in the rent tabulations.

Gross Rent. Data on gross rent were derived from the answers to question H20. The computed rent termed "Gross rent" was the contract rent plus the

estimated average monthly cost of utilities and fuels, (electricity, water, oil, gas, kerosene, wood, etc.) if these were paid for by the renter (or paid for the renter by someone else) in addition to rent. "Gross rent" was intended to eliminate differentials which resulted from varying practices with respect to the inclusion of utilities and fuels as part of the rental payment. The estimated cost of fuels was reported on a yearly basis but was converted to monthly figures in the computation process. Renter units occupied without payment of cash rent were shown separately as "No cash rent" in the tabulations.

Mortgage Status and Selected Monthly Owner Costs. The data for mortgage status and selected monthly owner costs were derived from the answers to questions H20, H30, H31, and H33. The data were presented for "Specified owner-occupied" housing units. These "specified" housing units included only one-family houses with no commercial establishment or medical office of the property. The data excluded owner-occupied condominium housing units, mobile homes, trailers, boats, tents, or vans occupied as a usual residence, as well as owner-occupied noncondominium units in multi-family buildings. Separate distributions were shown for units "With a mortgage" and for units "Not mortgaged." Selected monthly owner costs was the sum of payments for mortgages, or similar debts on the property; real estate taxes; fire and hazard insurance on the property; and utilities and fuels (electricity, water, oil, gas, kerosene, wood, etc.).

OCCUPANCY AND VACANCY CHARACTERISTICS

The geographic distribution of houses on Guam has changed markedly in the last 20 years (Table 14.1). In 1960, the Central region accounted for 41 percent of the houses on the island, the South held 26 percent, and the North had 33 percent of all houses. In 1970, the North was the only region that recorded a growth in the proportion of houses located there; both the Central and Southern regions, while increasing in the number of houses, decreased in the percent located there. The situation remained the same in 1980: the proportion of homes in the North grew by 19 percent over 1970 levels, while the Central and Southern regions decreased by 11 and 15 percent, respectively.

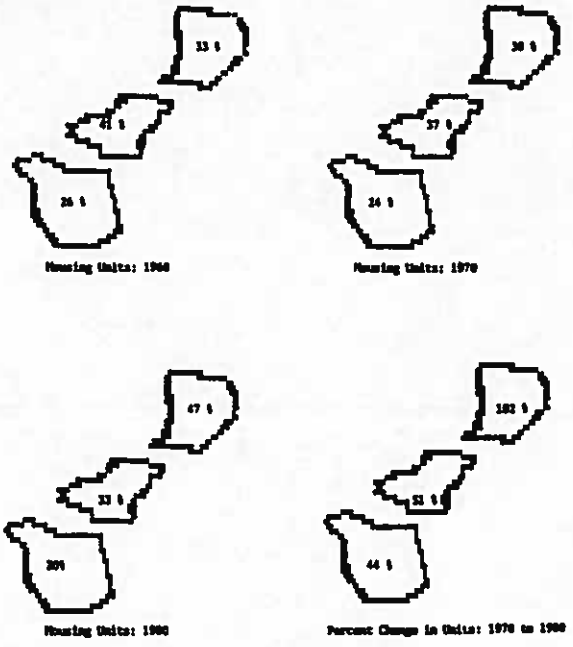


Table 14.1 Housing Distribution By Region and Election District: 1960 to 1980

Geographic Area	Numbers			Percent			Percent Change	
	1980	1970	1960	1980	1970	1960	1970-1980	1960-1970
Total....	28249	16680	12373	100.0	100.0	100.0	69.4	34.8
North.....	13244	6559	4105	46.9	39.3	33.2	101.9	59.8
Dededo.....	5558	2295	1176	19.7	13.8	9.5	142.2	95.2
Tamuning.....	4788	2208	1390	16.9	13.2	11.2	116.8	58.8
Yigo.....	2898	2056	1539	10.3	12.3	12.4	41.0	33.6
Central.....	9291	6153	5029	32.9	36.9	40.6	51.0	22.4
Agana.....	384	515	331	1.4	3.1	2.7	-25.4	55.6
Agana Hts.....	971	669	689	3.4	4.0	5.6	45.1	-2.9
Asan.....	589	581	602	2.1	3.5	4.9	1.4	-3.5
Barrigada.....	1930	1307	1110	6.8	7.8	9.0	47.7	17.7
Chalan Pago-Ordot.....	738	526	304	2.6	3.2	2.5	40.3	73.0
Mangilao.....	2067	740	355	7.3	4.4	2.9	179.3	108.5
Mongmong-Toto-Maite.....	1490	896	667	5.3	5.4	5.4	66.3	34.3
Piti.....	503	239	275	1.8	1.4	2.2	110.5	-13.1
Sinajana.....	619	680	696	2.2	4.1	5.6	-9.0	-2.3
South.....	5714	3968	3239	20.2	23.8	26.2	44.0	22.5
Agat.....	990	819	587	3.5	4.9	4.7	20.9	39.5
Inarajan.....	455	321	269	1.6	1.9	2.2	41.7	19.3
Merizo.....	398	271	234	1.4	1.6	1.9	46.9	15.8
Santa Rita.....	2253	1610	1356	8.0	9.7	11.0	39.9	18.7
Talofofo.....	445	350	208	1.6	2.1	1.7	27.1	68.3
Umatac.....	147	130	110	.5	.8	.9	13.1	18.2
Yona.....	1026	467	475	3.6	2.8	3.8	119.7	-1.7

SOURCE: U.S. Bureau of the Census 1960 Census of Housing Volume 1 Part 9 Table 1; HC(1)-A54 1970 Table 1; HC80-1-A54 1980 Table 1.

The total number of persons in occupied housing units grew from 55,140 in 1960 to 75,233 in 1970 to 101,000 in 1980 (83 percent increase in 20 years) (Table 14.2). The Northern region grew the most: 81 percent between 1960 and 1970, and 66 percent between 1970 and 1980. The Central region grew the least: 18 percent between 1960 and 1970, and 14 percent between 1970 and 1980. The change in the distribution of persons in occupied housing units follows that of the distribution of housing units shown in Table 14.1: growth in the North, decline on the Central and Southern regions.

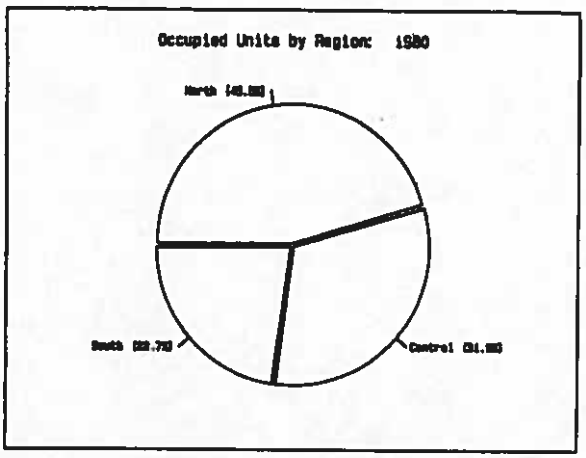
Table 14.2 Distribution of Persons in Occupied Housing Units by Region and Election District: 1960 to 1980

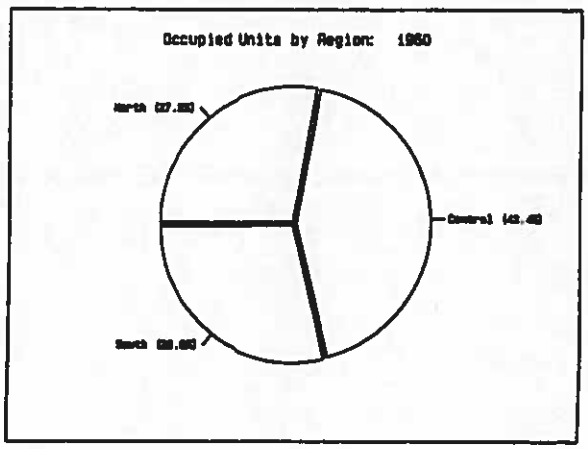
Geographic Area	Numbers			Percent		
	1980	1970	1960	1980	1970	1960
Persons in occpd units.	101000	75233	55140	100.0	100.0	100.0
North	45930	27728	15311	45.5	36.9	27.8
Dededo	23318	9941	4634	23.1	13.2	8.4
Tamuning	13225	9062	5443	13.1	12.0	9.9
Yigo	9387	8725	5234	9.3	11.6	9.5
Central	32154	28253	23926	31.8	37.6	43.4
Agana	885	1809	1433	.9	2.4	2.6
Agana Hts	3148	2889	3003	3.1	3.8	5.4
Asan	1999	2604	2593	2.0	3.5	4.7
Barrigada	7169	6224	5422	7.1	8.3	9.8
Chalan Pago-Ordot	3107	2885	1735	3.1	3.8	3.1
Mangilao	6622	3095	1532	6.6	4.1	2.8
Mongmong-Toto-Maite	5215	4005	2929	5.2	5.3	5.3
Piti	1524	1247	1417	1.5	1.7	2.6
Sinajana	2485	3495	3862	2.5	4.6	7.0
South	22916	19252	15903	22.7	25.6	28.8
Agat	3978	4200	3097	3.9	5.6	5.6
Inarajan	2043	1879	1730	2.0	2.5	3.1
Merizo	1651	1518	1389	1.6	2.0	2.5
Santa Rita	8311	6386	5277	8.2	8.5	9.6
Talofofo	1980	1884	1352	2.0	2.5	2.5
Umatac	732	813	744	.7	1.1	1.3
Yona	4221	2572	2314	4.2	3.4	4.2

SOURCE: U.S. Bureau of the Census General Population Characteristics 1960 Table 26; HC(1)-A54 1970 Table 1; HC80-1-A54 1980 Table 2.

There were 4.83 persons per occupied unit in 1970, compared to 4.07 persons in 1980, a 16 percent decrease (Table 14.3). Nearly 88 percent of the total population were in occupied units in 1970; 12 percent were in group quarters. Only 5 percent were in group quarters in 1980, a decrease of 49 percent. The proportion of persons in occupied units grew by 34 percent between 1970 and 1980.

Figure 14.1 Occupied Units by Region: 1960 to 1980
(Percent)





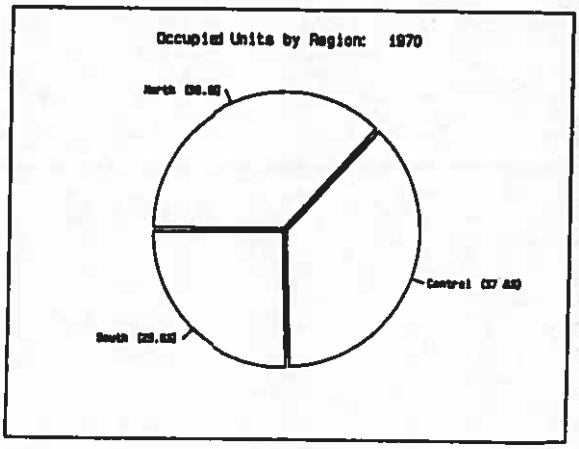


Table 14.3 Occupancy Characteristics: 1970 and 1980

Occupancy Characteristics	Number 1980	Number 1970	Percent 1980	Percent 1970	Change
Total persons.....	105979	84996	100.0	100.0	24.7
Persons in occupied units..	101000	75233	95.3	88.5	34.2
Per occupied unit.....	4.07	4.83	...	...	-15.7
Group quarters.....	4979	9763	4.7	11.5	-49.0

SOURCE: U.S. Bureau of the Census HC(1)-A54 1970 Table 1; HC80-1-A54 1980 Table 2; HC80-1-B54 1980 Table 15.

Off-base housing made up 83 percent of all occupied housing units in 1980 (Table 14.4). Both off- and on-base housing was primarily rented: 54 percent of off-base and 98 percent of on-base units were renter-occupied. There were 3.51 persons per occupied housing unit in on-base housing and 4.19 per off-base unit. There were more persons per unit in owner-occupied units for off-base houses (4.87) than for on-base (2.58), but for renter-occupied houses the reverse was true: on-base rental units had 3.51 persons per unit to 3.32 persons for off-base homes.

Table 14.4 Occupancy Characteristics and Tenure By Persons Living In On-base and Off-base Housing: 1980

Occupancy	Number Total	Number Offbse Hsing	Number Onbse Hsing	Percent Total	Percent Offbse Hsing	Percent Onbse Hsing
Occupied housing units.	24834	20478	4356	100.0	100.0	100.0
Owner occupied units.....	11469	11457	12	46.2	55.9	.3
Renter occupied units.....	13365	9021	4344	53.8	44.1	99.7
Persons in occpd units..	101000	85713	15287	100.0	100.0	100.0
Owner occupied unit.....	55811	55780	31	55.3	65.1	.2
Renter occupied unit.....	45189	29933	15256	44.7	34.9	99.8
Persons per occpd unit..	4.07	4.19	3.51	(X)	(X)	(X)
Owner occupied.....	4.87	4.87	2.58	(X)	(X)	(X)
Renter occupied.....	3.38	3.32	3.51	(X)	(X)	(X)

SOURCE: U.S. Bureau of the Census HC-80-1-A54 1980 Tables 2 and 5.

Slightly over 91 percent of housing on military bases was occupied in 1980, most (over 99 percent) was rented (Table 14.5). The highest rate of occupancy was at Agana Station at 99 percent; the lowest was at Marbo Annex (80 percent). Nearly all of the units that were rented were done so for no cash rent.

Table 14.5 Housing on Military Base Areas: 1980

Military Base Areas	Total	Occupied	Rented	No cash rent	
				Number	Percent
On-base housing units..	4771	4356	4344	4236	97.2
Agana Hts. Naval Hospital..	71	68	68	66	97.1
Agana Station.....	487	483	483	465	96.3
Andersen Air Force Base....	1396	1135	1131	1126	99.2
Apra Harbor.....	1432	1381	1374	1332	96.5
Finegayan.....	874	857	856	852	99.4
Marbo Annex.....	363	292	292	271	92.8
Nimitz Hill Annex.....	148	140	140	124	88.6

SOURCE: U.S. Bureau of the Census HC80-1-A54 1980 Table 5.

Of all occupied housing units in 1970, 54 percent were occupied by renters; nearly 7 percent for no cash rent (Table 14.6). In both 1970 and 1980, 9 percent of occupied housing units were vacant for sale only. Those units vacant for rent only in 1970 made up 38 percent of all vacant housing units, in 1980 this rose to 41 percent. Units vacant for other reasons made up 53 percent of all vacant housing units in 1970, but only 32 percent of units in 1980.

Table 14.6 Tenure: 1970 and 1980

Tenure	Number		Percent	
	1980	1970	1980	1970
Occupied housing units.....	24834	15569	100.0	100.0
Owner occupied housing.....	11469	7165	46.2	46.0
Percent of occupied housing.....	46.2	46.0	...	...
Renter occupied housing.....	13365	8404	53.8	54.0
No cash rent.....	5704	1070	23.0	6.9
Vacant housing units.....	3257	1107	100.0	100.0
Vacant for sale only.....	276	100	8.5	9.0
Homeowner vacancy rate.....	2.3	1.4	...	...
Vacant for sale 6 or more mos...	65	...	2.0	...
With complete plumbing.....	253	...	7.8	...
Vacant for rent.....	1347	421	41.4	38.0
Rental vacancy rate.....	9.2	4.8	...	...
Vacant for rent 2 or more mos...	616	...	18.9	...
With complete plumbing.....	1328	...	40.8	...
Held for occasional use.....	198	...	6.1	...
Rented or sold awaiting occupant....	404	...	12.4	...
Other vacant.....	1032	586	31.7	52.9
Boarded up.....	85	...	2.6	...

SOURCE: U.S. Bureau of the Census HC(1)-A54 1970 Table 1; HC80-1-A54 1980 Table 2; Summary Tape File 1A 1980 Tables 53 and 54.

Of those units that were vacant for sale only in 1980, over 23 percent had been vacant for 6 or more months. The rate was nearly twice as high for units that were vacant for rent only for 2 or more months. Those units that were vacant for sale only had complete plumbing in 92 out of 100 homes; those vacant for rent only had complete plumbing in nearly 99 of 100 homes.

UTILIZATION CHARACTERISTICS

In 1980, 55 percent of all occupied housing units were owner-occupied; the remaining 45 percent were rental units (Table 14.7). Of all rental units, 67 percent were single-family homes, 8 percent were duplexes, less than 1 percent were mobile homes or trailers. Structures with 3 or more units comprised the final 25 percent of rental units. Owner-occupied homes were mainly single-family nomes (95 percent) or duplexes (3 percent), with just over 2 percent being structures with 3 or more units.

Table 14.7. Persons in Occupied Housing Units by Owner/Renter Status by Units in Structure:1980

Units in Structure	1980	Percent of Total Prcnt	
Total persons in housing...	101000	100.0	...
1, detached.....	68439	67.8	...
1, attached.....	14439	14.3	...
2.....	4935	4.9	...
3 or 4.....	3496	3.5	...
5 or more.....	8951	8.9	...
Mobile home or trailer.....	715	.7	...
Boat.....	25	0.0	...
Persons in rental units....	45189	44.7	100.0
1, detached.....	17187	17.0	38.0
1, attached.....	12928	12.8	28.6
2.....	3565	3.5	7.9
3 or 4.....	2817	2.8	6.2
5 or more.....	8309	8.2	18.4
Mobile home or trailer.....	378	.4	.8
Boat.....	5	0.0	0.0
Persons in owner occ units.	55811	55.3	100.0
1, detached.....	51252	50.7	91.8
1, attached.....	1511	1.5	2.7
2.....	1370	1.4	2.5
3 or 4.....	679	.7	1.2
5 or more.....	642	.6	1.2
Mobile home or trailer.....	337	.3	.6
Boat.....	20	0.0	0.0

SOURCE: Bureau of the Census Summary Tape File 3A Table 104.

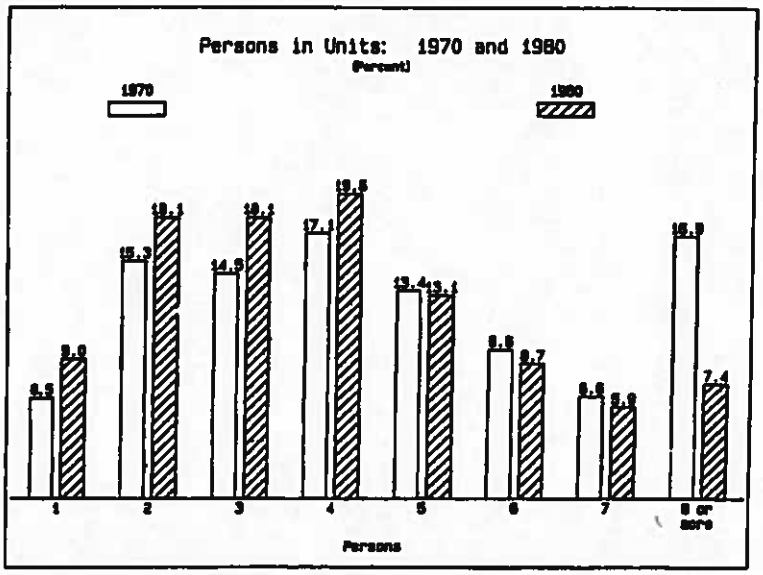
In 1970, the category of number of persons in housing units that had the highest frequency was that of 4 persons per unit, followed by 8 or more persons per unit (Table 14.8). By 1980, this had changed only somewhat: 4 persons per room still had the highest percentage, but the second most frequent number of persons per unit was shared with 2 and 3 persons. The category of 1 person per unit showed the greatest change between 1970 and 1980: it increased by 119 percent. The number of houses with 8 or more persons per unit had the greatest decline: this category went from 17 percent of housing units in 1970 to only 7 percent in 1980.

Table 14.8. Persons in Units: 1970 and 1980

Persons in Units	Number		Change From 1970 to 1980	Percent	
	1980	1970		1980	1970
Total....	24834	15569	59.5	100.0	100.0
1 person.....	2226	1015	119.3	9.0	6.5
2 persons.....	4503	2375	89.6	18.1	15.3
3 persons.....	4499	2264	98.7	18.1	14.5
4 persons.....	4866	2661	82.9	19.6	17.1
5 persons.....	3263	2093	55.9	13.1	13.4
6 persons.....	2156	1493	44.4	8.7	9.6
7 persons.....	1474	1033	42.7	5.9	6.6
8 or more persons.	1847	2635	-29.9	7.4	16.9
Median.....	3.7	4.6	...	...	...

Source: U.S. Bureau of the Census HC80-1-A54, 1980 Table 3; HC(1)-A54, 1970, Table 1.

Figure 14.2 Persons in Units: 1970 and 1980
(Percent)



Most housing structures had between 4 and 5 rooms in both 1970 and 1980 (Table 14.9). Fully 31 percent of structures had 5 rooms in 1970; this decreased to 29 percent in 1980. Over 24 percent of houses had 4 rooms in 1970, rising to 36 percent in 1980, an increase of over 83 percent in the number of homes with 4 rooms. The categories that showed the greatest increases between 1970 and 1980 were those of 7 and 8 or more rooms: the number of units with 7 rooms increased by 120 percent; those with 8 or more rooms grew by 113 percent. No categories decreased during this time.

Table 14.9. Rooms in Structure: 1970 and 1980

Rooms	Number		Change From 1970 to	Percent	
	1980	1970	1980	1980	1970
Total....	28091	16676	68.5	100.0	100.0
1 room.....	512	386	32.6	1.8	2.3
2 rooms.....	1264	1141	10.8	4.5	6.8
3 rooms.....	3195	2181	46.5	11.4	13.1
4 rooms.....	7437	4055	83.4	26.5	24.3
5 rooms.....	8000	5162	55.0	28.5	31.0
6 rooms.....	5251	2635	99.3	18.7	15.8
7 rooms.....	1662	755	120.1	5.9	4.5
8 or more rooms...	770	361	113.3	2.7	2.2
Median.....	4.7	4.6	2.2	...	...

Source: U.S. Bureau of the Census HC80-1-A54, Table 3; HC(1)-A54, 1970, Table 2.

Along with the change in the number of persons per unit, the number of persons per room also changed (Table 14.10). In 1960, the category of persons per room with the highest percentage was that of "0.75 persons or less per room". In 1970, this had changed to "0.76 to 1.00 persons per room". However, there were additional categories of smaller numbers of persons per room at this time. The total two lower categories equal to "0.75 persons per room or less", compared to that category for 1960, would be greater than 35 percent and higher than that of 1960, showing an increase in that category over the intervening 10 years.

By 1980, the highest single category of persons per room was that of "0.50 or less". Again, when categories are combined to make "0.75 or less", the percentage rose to 51, an increase of 15 percentage points over 10 years.

Owner-occupied units had more persons per room in all 3 Census years than did renter-occupied units. In 1960, the greatest frequency for owner-occupied units was "1.51 or more" persons per room; for renters it was "0.51 to 0.75" persons per room. In 1970, the category for the owners had not changed, but renters had shifted to "0.76 to 1.00" persons per room. In 1980, owners had moved to the category of "0.76 to 1.00" but renters had moved down to "0.5 or less" persons per room.

Figure 14.3 Rooms in Structure: 1970 and 1980

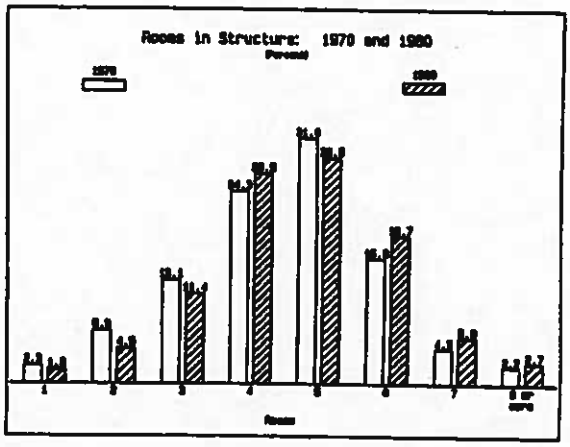


Table 14.10. Persons per Room: 1960 to 1980

Persons per Room	Number			Percent		
	1980	1970	1960	1980	1970	1960
Year-round units.....	24834	15569	10830	100.0	100.0	100.0
0.50 or less.....	6678	2884	(X)	26.9	18.5	...
0.51 to 0.75.....	5882	2634	3631	23.7	16.9	33.5
0.76 to 1.00.....	6218	4101	2959	25.0	26.3	27.3
1.01 to 1.50.....	3732	2644	1894	15.0	17.0	17.5
1.51 or more.....	2324	3306	2270	9.4	21.2	21.0
Not reported.....	...	...	76	...	...	.7
Owner-occupied units.....	11469	7165	5028	100.0	100.0	100.0
0.50 or less.....	2431	991	(X)	21.2	13.8	...
0.51 to 0.75.....	2020	786	1089	17.6	11.0	21.7
0.76 to 1.00.....	3060	1402	876	26.7	19.6	17.4
1.01 to 1.50.....	2427	1549	1177	21.2	21.6	23.4
1.51 or more.....	1531	2437	1855	13.3	34.0	36.9
Not reported.....	...	...	31	...	...	.6
Renter-occupied units....	13365	8404	5802	100.0	100.0	100.0
0.50 or less.....	4247	1893	(X)	31.8	22.5	...
0.51 to 0.75.....	3862	1848	2542	28.9	22.0	43.8
0.76 to 1.00.....	3158	2699	2083	23.6	32.1	35.9
1.01 to 1.50.....	1305	1095	717	9.8	13.0	12.4
1.51 or more.....	793	869	415	5.9	10.3	7.2
Not reported.....	...	...	45	...	...	.7

Note: (X) indicates persons per room is 0.75 or less in 1960.
SOURCE: U.S. Bureau of the Census HC-1-A54 1980 Table 3; HC(1)-A54 1970 Table 2; Census of Housing Part 9 Chapter 54 1960 Table 1.

PLUMBING CHARACTERISTICS

The plumbing and sewage facilities available to island residents are not only important for those concerned with housing, but to Public Health officials as well. Lack of clean, uncontaminated water, and improper disposal of sewage can lead to epidemics of such diseases as Salmonella and Shigella. Guam has recorded several deaths from these diseases in the past. Fortunately, the majority of housing units in both 1970 and 1980 had complete plumbing facilities: 81 percent in 1970, and 96 percent in 1980 (Table 14.11). In 1970, 64 percent of units had complete plumbing with both hot and cold piped water, as did to 84 percent in 1980, a 31 percent increase in the proportion of units with complete plumbing. Only 17 percent of year-round units had incomplete plumbing in 1970; this further decreased to 4 percent in 1980. Renter-occupied units had higher proportions of homes with complete plumbing than did owner-occupied units in both 1970 and 1980.

Table 14.11. Plumbing Facilities: 1970 and 1980

	Number		Percent	
Plumbing Facilities	1980	1970	1980	1970
Total year-round units.....	28091	16676	100.0	100.0
Complete plumbing.....	26919	13530	95.8	81.1
With hot and cold piped water.....	23689	10729	84.3	64.3
With only cold piped water.....	3230	2801	11.5	16.8
Lacking complete plumbing.....	1172	3146	4.2	18.9
Owner occupied units.....	11469	7165	100.0	100.0
Complete plumbing.....	10902	4950	95.1	69.1
With hot and cold piped water.....	9083	3216	79.2	44.9
With only cold piped water.....	1819	1734	15.9	24.2
Lacking complete plumbing.....	567	2215	4.9	30.9
Renter occupied units.....	13365	8404	100.0	100.0
Complete plumbing.....	13052	7647	97.7	91.0
With hot and cold piped water.....	12098	6716	90.5	79.9
With only cold piped water.....	954	931	7.1	11.1
Lacking complete plumbing.....	313	757	2.3	9.0

SOURCE: U.S. Bureau of the Census HC(1)-A54 1970 Table 3; HC80-1-A54 1980 Table 2.

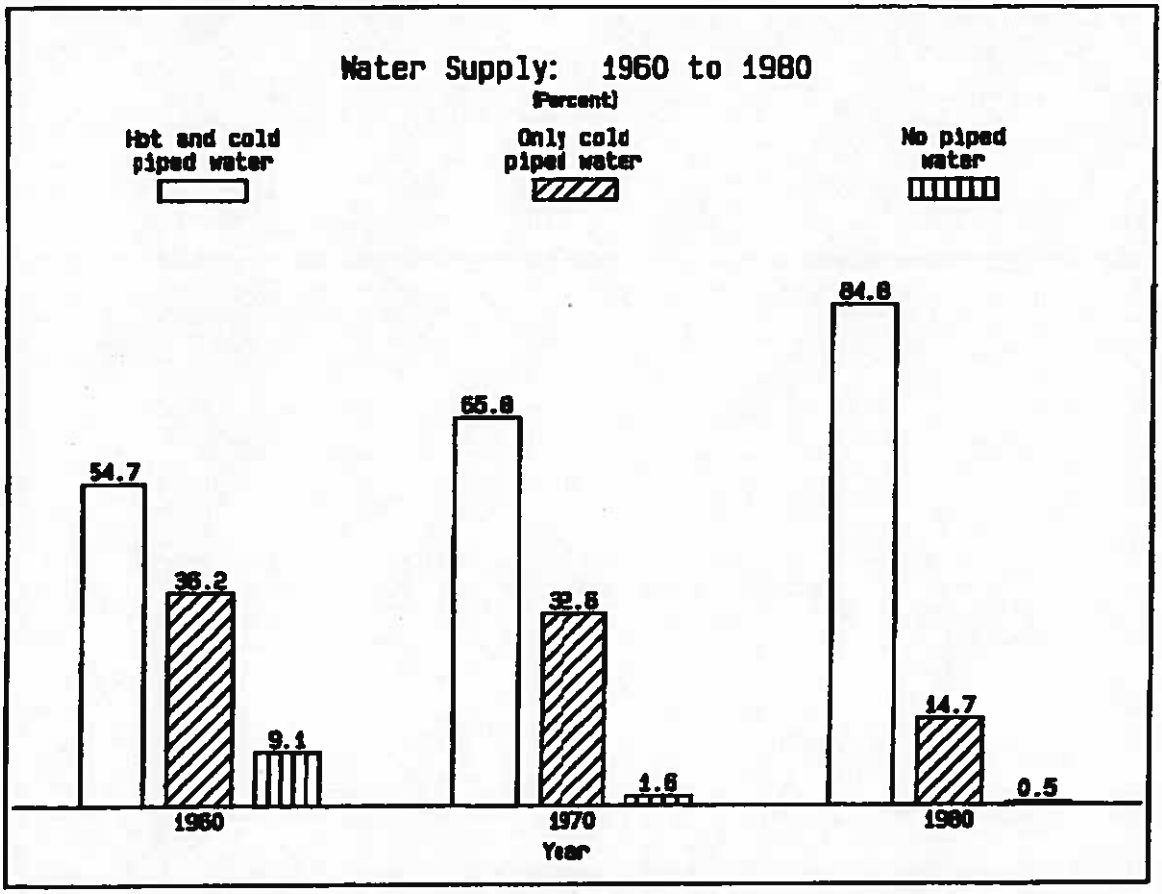
Water supply is also an important health concern (Table 14.12). In 1960, nearly 55 percent of all year-round units had both hot and cold piped water. This proportion rose to over 65 percent in 1970, and nearly 85 percent in 1980. An additional 36 percent of units had only cold piped water in 1960, and 9 percent had no piped water at all. This last category had fallen to only one-half of one percent by 1980. Renter-occupied units had higher proportions with both hot and cold piped water in all 3 Census years. It should be remembered that most on-base housing was renter-occupied, and that such housing was constructed to different standards than local housing: those living on-base demanded amenities.

Table 14.12. Water Supply: 1960 to 1980

Water Supply	Number			Percent		
	1980	1970	1960	1980	1970	1960
Year-round units.....	28091	16676	12373	100.0	100.0	100.0
Hot and cold piped water...	23808	10966	6770	84.8	65.8	54.7
Only cold piped water.....	4141	5440	4474	14.7	32.6	36.2
No piped water.....	142	270	1129	.5	1.6	9.1
Owner-occupied units.....	11469	7165	5028	100.0	100.0	100.0
Hot and cold piped water...	9138	3357	1027	79.7	46.9	20.4
Only cold piped water.....	2307	3654	3378	20.1	51.0	67.2
No piped water.....	24	154	623	.2	2.1	9.1
Renter-occupied units....	13365	8404	5802	100.0	100.0	100.0
Hot and cold piped water...	12140	6802	4771	90.8	80.9	82.2
Only cold piped water.....	1196	1551	856	8.9	18.5	14.8
No piped water.....	29	51	175	.2	.6	3.0

SOURCE: U.S. Bureau of the Census, Census of Housing Part 9 Chapter 54 1960 Table 3; HC(1)-A54 1970 Table 3; HC80-1-A54 1980 Table 2.

Figure 14.4 Water Supply: 1960 to 1980



Toilet facilities are another important health-related amenity (Table 14.13). Flush toilets were present in over 69 percent of year-round units in 1960, and by 1980, in nearly 98 percent of units. The majority were inside the building. Outhouses or privies were present in 30 percent of housing units in 1960, but only 2 percent by 1980. Very few units had no facilities in 1960, but 3 percent in 1970 had facilities, then decreased to less than 1 percent in 1980. As with water supply, renter-occupied units had higher rates of toilet facilities than did owner-occupied units in all 3 Censuses.

Table 14.13. Toilet Facilities: 1960 to 1980

Toilet Facilities	Number			Percent		
	1980	1970	1960	1980	1970	1960
Year-round units.....	28091	16676	12373	100.0	100.0	100.0
Flush toilet.....	27377	14043	8577	97.5	84.2	69.3
Inside this building.....	27120	13851	8390	96.5	83.1	67.8
Outside this building....	257	192	187	.9	1.2	1.5
Outhouse or privy.....	545	2076	3773	1.9	12.4	30.5
Other or none.....	169	557	23	.6	3.3	.2
Owner-occupied units...	11469	7165	5028	100.0	100.0	100.0
Flush toilet.....	11154	5277	2301	97.3	73.6	45.8
Inside this building.....	11002	5143	2163	95.9	71.8	43.0
Outside this building....	152	134	138	1.3	1.9	2.7
Outhouse or privy.....	287	1534	2713	2.5	21.4	54.0
Other or none.....	28	354	14	.2	4.9	.3
Renter-occupied units..	13365	8404	5802	100.0	100.0	100.0
Flush toilet.....	13185	7812	5183	98.7	93.0	89.3
Inside this building.....	13110	7759	5141	98.1	92.3	88.6
Outside this building....	75	53	42	.6	.6	.7
Outhouse or privy.....	131	468	610	1.0	5.6	10.5
Other or none.....	49	124	9	.4	1.5	.2

SOURCE: U.S. Bureau of the Census, Census of Housing Part 9 Chapter 54 1960 Table 3; HC(1)-A54 1970 Table 3; HC80-1-A54 1980 Table 2.

Tank-type water heaters were present in nearly 85 percent of all housing units in 1980, and in nearly 86 percent of occupied units (Table 14.14). Owner-occupied housing units had the lowest percentage of tank-type water heaters at 80 percent. Electricity was the fuel most commonly used to operate these heaters, followed by gas. Very few water heaters were powered by solar energy, and the majority of these were in owner-occupied units.

Table 14.14. Energy Used by Tank-type Water Heaters by Region: 1980

Energy Type	Number				Percent			
	Total	North	Cntrl	South	Total	North	Cntrl	South
Total Units.....	28091	13175	9247	5669	100.0	100.0	100.0	100.0
Electricity.....	22745	11009	7484	4252	81.0	83.6	80.9	75.0
Gas.....	1008	775	178	55	3.6	5.9	1.9	1.0
Solar energy.....	50	12	17	21	.2	.1	.2	.4
Other fuels.....	5	3	2	0	0.0	.0	.0	0.0
No tank-type wtr heater.	4283	1376	1566	1341	15.2	10.4	16.9	23.7
Total occpd units...	24834	11595	8070	5169	100.0	100.0	100.0	100.0
Electricity.....	20296	9723	6610	3963	81.7	83.9	81.9	76.7
Gas.....	927	716	158	53	3.7	6.2	2.0	1.0
Solar energy.....	50	12	17	21	.2	.1	.2	.4
Other fuels	5	3	2	0	0.0	.0	.0	0.0
No tank-type wtr heater.	3556	1141	1283	1132	14.3	9.8	15.9	21.9
Renter-occpd units..	13365	6651	4089	2625	100.0	100.0	100.0	100.0
Electricity.....	11832	6025	3572	2235	88.5	90.6	87.4	85.1
Gas.....	294	247	31	16	2.2	3.7	.8	.6
Solar energy.....	11	1	9	1	.1	.0	.2	.0
Other fuels.....	3	2	1	0	0.0	.0	.0	0.0
No tank-type wtr heater.	1225	376	476	373	9.2	5.7	11.6	14.2
Owner-occpd units...	11469	4944	3981	2544	100.0	100.0	100.0	100.0
Electricity.....	8464	3698	3038	1728	73.8	74.8	76.3	67.9
Gas.....	633	469	127	37	5.5	9.5	3.2	1.5
Solar energy.....	39	11	8	20	.3	.2	.2	.8
Other fuels.....	2	1	1	0	0.0	.0	.0	0.0
No tank-type wtr heater.	2331	765	807	759	20.3	15.5	20.3	29.8

SOURCE: U.S. Bureau of the Census Summary Tape File 3A Table 114.

In 1970, 98 percent of year-round units used the public system as their source of water, as did over 99 percent in 1980 (Table 14.15). Less than 1 percent in both years got their water from catchments, tanks or drums, or from public standpipes or hydrants. The proportion of year-round units which relied on some other source for water fell from over 1 percent in 1970 to well below 1 percent in 1980.

Figure 14.5 Toilet Facilities: 1960 to 1980

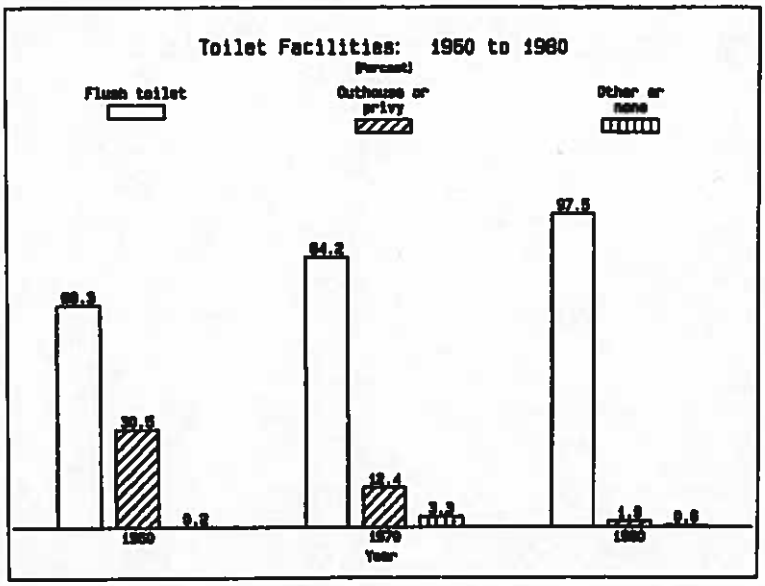
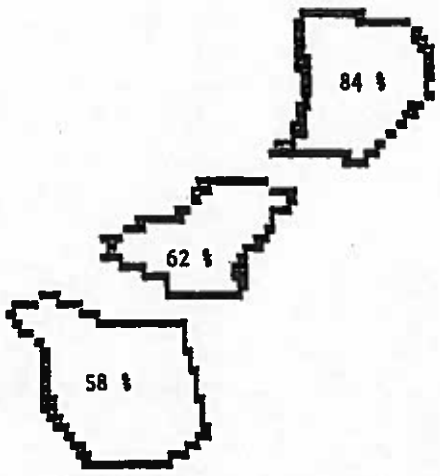


Table 14.15. Source of Water: 1970 and 1980

Source of Water	Number		Percent	
	1980	1970	1980	1970
Year-round units.....	28091	16676	100.0	100.0
Public system.....	27972	16292	99.6	97.7
Individual well.....	9	2	0.0	0.0
Catchment, tanks, drums....	34	75	.1	.4
Public standpipe, hydrant..	9	60	0.0	.4
Some other source.....	67	247	.2	1.5

SOURCE: U.S. Bureau of the Census HC80-1-B54 1980 Table 10; HC(1)-B54 1970 Table 4.

Disposal of sewage is also a Public Health concern, as mentioned earlier (Table 14.16). In 1980, 72 percent of all year-round units used a public sewer, 25 percent used a septic tank, and the remaining 3 percent used other means. The North had the highest proportion of units using a public sewer (84 percent), followed by the Central region at 62 percent, and the South, with 58 percent. In the North, 14 percent of units used a septic tank, and 2 percent used other means. In the South, 35 percent of units used septic tanks and over 7 percent used other means. The Central region had the greatest proportion of units using septic tanks, 35 percent, with the other 3 percent using other means.



Percent of Units Using Public Sewer

Dededo was the village with the highest proportion of year-round units using public sewers; Merizo and Umatac the lowest. Barrigada had the greatest percentage of units using septic tanks; Agana the smallest. For those villages using other means, Dededo had the highest proportion, Agana the lowest.

Table 14.16. Sewage Disposal By Election District: 1980

Sewage Disposal	Number				Percent			
	Total Units	Sewer	Septic Tank	Other Means	Total Units	Sewer	Septic Tank	Other Means
Total year-round units.	28091	20116	7124	851	100.0	100.0	100.0	100.0
North.....	13175	11061	1913	201	46.9	55.0	26.9	23.6
Dededo.....	5495	4610	754	131	19.6	22.9	10.6	15.4
Tamuning.....	4784	4336	423	25	17.0	21.6	5.9	2.9
Yigo.....	2896	2115	736	45	10.3	10.5	10.3	5.3
Central.....	9247	5751	3252	244	32.9	28.6	45.6	28.7
Agana.....	383	348	31	4	1.4	1.7	.4	.5
Agana Heights.....	971	818	144	9	3.5	4.1	2.0	1.1
Asan.....	587	393	179	15	2.1	2.0	2.5	1.8
Barrigada.....	1909	861	988	60	6.8	4.3	13.9	7.1
Chalan Pago-Ordot.....	734	111	560	63	2.6	.6	7.9	7.4
Mangilao.....	2054	1190	821	43	7.3	5.9	11.5	5.1
Mongmong-Toto-Maite.....	1490	1092	380	18	5.3	5.4	5.3	2.1
Piti.....	501	409	69	23	1.8	2.0	1.0	2.7
Sinajana.....	618	529	80	9	2.2	2.6	1.1	1.1
South.....	5669	3304	1959	406	20.2	16.4	27.5	47.7
Agat.....	979	727	182	70	3.5	3.6	2.6	8.2
Inarajan.....	452	17	340	95	1.6	.1	4.8	11.2
Merizo.....	395	2	322	71	1.4	0.0	4.5	8.3
Santa Rita.....	2246	1936	264	46	8.0	9.6	3.7	5.4
Talofofo.....	444	12	380	52	1.6	.1	5.3	6.1
Umatac.....	147	8	114	25	.5	0.0	1.6	2.9
Yona.....	1006	602	337	47	3.6	3.0	5.0	5.5

SOURCE: U.S. Bureau of the Census HC-1-B54 Table 10.

STRUCTURAL CHARACTERISTICS

In 1970, 52 percent of all year-round units had been built in the decade 1960 to 1969, and 48 percent prior to 1960 (Table 14.17). In 1980, 70 percent of these units remained, but they accounted for only 41 percent of all year-round housing units: 59 percent had been built between 1970 and March 1980. As both periods had seen Guam ravaged by major typhoons (Karen in 1962 and Pamela in 1976), some of the units constructed after 1960 and after 1970 were built to replace those lost to storms. The majority, however, were constructed to accommodate the growing population.

Table 14.17. Year Structure Built: 1970 and 1980

Year Structure Built	Number		Percent	
	1980	1970	1980	1970
All year-round units....	28091	16676	100.0	100.0
1979 to March 1980.....	1007	...	3.6	...
1975 to 1978.....	5036	...	17.9	...
1970 to 1974.....	10458	...	37.2	...
1960 to 1969.....	7566	8666	26.9	52.0
1950 to 1959.....	3268	5537	11.6	33.2
1940 to 1949.....	672	2251	2.4	13.5
1939 or earlier.....	84	222	.3	1.3

SOURCE: U.S. Bureau of the Census HC(1)A54 1970 Table 1; HC80-1-B54 1980 Table 9.

In the Northern region, the largest proportion - 41 percent - of all year-round units had been built between 1970 and 1974, followed by those built between 1960 to 1969 (Table 14.18). This was true for all regions except the South: the second most common period that houses were built in was from 1950 to 1959.



Percent of Units Built 1970 to 1974

Table 14.18. Year Structure Built By Region: 1980

Year Built	Number				Percent			
	Total	North Cntrl	South		Total	North Cntrl	South	
Year-round units.	28091	13175	9247	5669	100.0	100.0	100.0	100.0
1979 to March 1980	1007	518	330	159	3.6	3.9	3.6	2.8
1975 to 1978.....	5036	1926	1960	1150	17.9	14.6	21.2	20.3
1970 to 1974.....	10458	5401	3191	1866	37.2	41.0	34.5	32.9
1960 to 1969.....	7566	4127	2296	1143	26.9	31.3	24.8	20.2
1950 to 1959.....	3268	894	1198	1176	11.6	6.8	13.0	20.7
1940 to 1949.....	672	298	237	137	2.4	2.3	2.6	2.4
1939 or earlier...	84	11	35	38	.3	.1	.4	.7

SOURCE: U.S. Bureau of the Census Summary Tape File 3A Table 109.

Single-family houses, both attached and detached, made up the majority of housing units in both 1970 and 1980 (74 percent), though there was a slight decrease in the proportion of single-family units in 1980 (Table 14.19). The percentage of double-family units ("duplexes") decreased sharply between 1970 and

1980, from 19 percent to 5 percent, a 73 percent decrease. This decrease was balanced by an increase in the proportion of multiple-family housing units: in 1970, structures with 3 or more family units accounted for 7 percent of all year-round units, and by 1980, had grown to 20 percent. Structures with 10 or more units made up 62 percent of this subgroup in 1980, but only 29 percent of it in 1970. Buildings with 50 or more units ("condominiums") were not even in evidence in 1970, but accounted for 4 percent of year-round housing units in 1980.

Table 14.19. Units in Structure: 1970 and 1980

Units in Structure	Number		Change From 1970 to 1980	Percent	
	1980	1970		1980	1970
Units in Structure..	28091	16676	68.5	100.0	100.0
1, detached.....	16300	11321	44.0	58.0	67.9
1, attached.....	4493	1072	319.1	16.0	6.4
2.....	1445	3140	-54.0	5.1	18.8
3 and 4.....	1205	482	150.0	4.3	2.9
5 or more.....	4377	611	616.4	15.6	3.7
Boat.....	13	(NA)	(NA)	.0	0.0
Mobile home or trailer...	258	50	416.0	.9	.3

Source: U.S Bureau of the Census HC80-1-B54, Table 9, and HC(1)-B54, 1970 Table 1

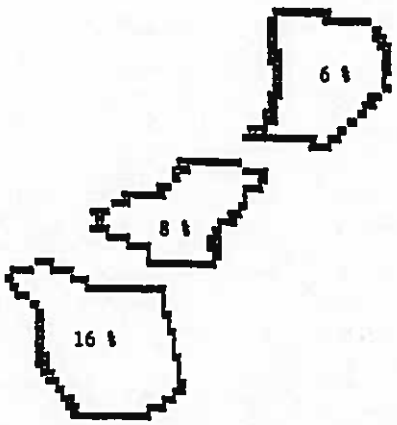
In 1980, 82 percent of year-round housing units were constructed with concrete outside walls; 74 percent had concrete roofs (Table 14.20). Of the remaining units, 9 percent had metal walls, 9 percent had wooden walls, and less than 1 percent had walls constructed of some other material. Metal roofing material was to be found on 21 percent of houses, wood on 2 percent and some other material on the remaining 2 percent of housing units.

Table 14.20. Material of Construction: 1980

Material Used	Number		Percent	
	Walls	Roof	Walls	Roof
Year-round housing units.	28091	28091	100.0	100.0
Concrete.....	22982	20874	81.8	74.3
Metal.....	2420	5988	8.6	21.3
Wood.....	2470	553	8.8	2.0
Other.....	219	676	.8	2.4

SOURCE: U.S. Bureau of the Census HC80-1-B54 1980 Table 9.

Table 14.21 shows housing by wall material by region in 1980. The most common type of wall material was concrete block, followed by poured concrete. For the Northern region, poured concrete was the most common wall material, with concrete block second. Metal, wood and other substances made up only 18 percent overall of materials used for walls, but over 25 percent of walls in the South were made of these materials.

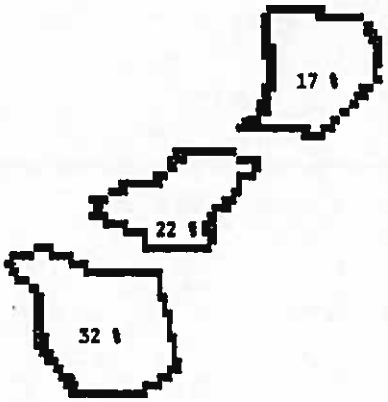


Percent of Units with Metal Walls

Table 14.21. Year-Round Housing by Type of Material Used For Outside Walls: 1980

Material for walls	Numbers				Percents			
	Total	North	Cntrl	South	Total	North	Cntrl	South
Total Units..	28091	13175	9247	5669	100.0	100.0	100.0	100.0
Poured Concrete...	9172	6217	1745	1210	32.6	47.2	18.9	21.3
Concrete Block....	13810	5151	5640	3019	49.2	39.1	61.0	53.2
Metal.....	2420	802	722	896	8.6	6.1	7.8	15.8
Wood.....	2470	938	1045	487	8.8	7.1	11.3	8.6
Other.....	219	67	95	59	.8	.5	1.0	1.0

SOURCE: U.S. Bureau of the Census Summary Tape File 3A Table 171.



Percent of Units with Metal Roof

By far, the most common roofing material in all regions was poured concrete (Table 14.22). Those roofs made from materials other than concrete were those most commonly lost in storms. The only region with a significant proportion of roofs made of metal was the South: their percentage was 46 percent higher than that of the next highest region, the Central, while the Central region had the highest percentage of roofs made from other materials.

Table 14.22. Year-Round Housing by Type of Material Used For Roof by Region: 1980

Material for walls	Number				Percent			
	Total	North Cntrl	South		Total	North Cntrl	South	
Total Units..	28091	13175	9247	5669	100.0	100.0	100.0	100.0
Poured Concrete...	20874	10657	6554	3663	74.3	80.9	70.9	64.6
Metal.....	5988	2202	1994	1792	21.3	16.7	21.6	31.6
Wood.....	553	212	252	89	2.0	1.6	2.7	1.6
Other.....	676	104	447	125	2.4	.8	4.8	2.2

SOURCE: U.S. Bureau of the Census Summary Tape File 3A Table 172.

EQUIPMENT CHARACTERISTICS

In 1970, nearly 98 percent of year-round housing units had electric power, about the same as in 1980 (Table 14.23). In both years, roughly 2 percent of year-round units had no electric power. Of those with power in 1980, over 99 percent relied on the public utility; very few had private generators.

Table 14.23. Source of Electric Power: 1970 and 1980

	Number		Percent	
	1980	1970	1980	1970
Year-round units.....	28091	16676	100.0	100.0
With electric power.....	27553	16298	98.1	97.7
No electric power.....	538	378	1.9	2.3

SOURCE: U.S. Bureau of the Census HC(1)-A54 1970 Table 4; HC80-1-B54 1980 Table 10.

In 1970, nearly 98 percent of year-round units had cooking facilities for their own use, less than 1 percent shared cooking facilities, and almost 2 percent had no cooking facilities (Table 14.24). In 1980, these proportions had not changed significantly. For occupied housing units, nearly 99 percent had their own cooking facilities, and just over 1 percent either shared cooking facilities or had none. By 1980, over 99 percent had cooking facilities in occupied units. Of these facilities, 98 percent were inside the building in both 1970 and 1980. Electric stoves were used in over 77 percent of occupied housing units, and gas stoves in just over 19 percent. Kerosene stoves and other cooking devices were used in the remaining structures.

Table 14.24. Cooking Facilities: 1970 and 1980

Cooking Facilities	Number		Percent	
	1980	1970	1980	1970
Total year-round units	28091	16676	100.0	100.0
For own use	27587	16326	98.2	97.9
Inside this unit	27000	16035	96.1	96.2
Outside this unit	587	291	2.1	1.7
Also used by another household	...	41	...	.2
No cooking facilities	504	309	1.8	1.9
Occupied housing units	24834	15569	100.0	100.0
For own use	24731	15389	99.6	98.8
Inside this building	24260	15138	97.7	97.2
Outside this building	471	251	1.9	1.6
Also used by another household	...	39	...	.3
No cooking facilities	103	141	.4	.9

Note: Data on shared cooking facilities not collected in 1980.

SOURCE: U.S. Bureau of the Census HC(1)A54 1970 Table 4; HC-1-B54 1980 Table 10.

In 1960, 91 percent of occupied units had mechanical refrigerators and 9 percent had no refrigerator (Table 14.25). In 1970, only 88 percent had mechanical refrigerators, 9 percent had ice boxes, and nearly 3 percent had no refrigerators. By 1980, the percentage with mechanical refrigerators had risen to 98 percent, ice boxes had decreased to just over 1 percent, and another 1 percent of units had no refrigerators. This trend was followed in units that were both owner- and renter-occupied, though renter-occupied units had higher rates of having mechanical refrigerators than did owner-occupied units in all 3 Census years. The lower proportions having mechanical refrigerators in 1970 may be explained by a change in definition.

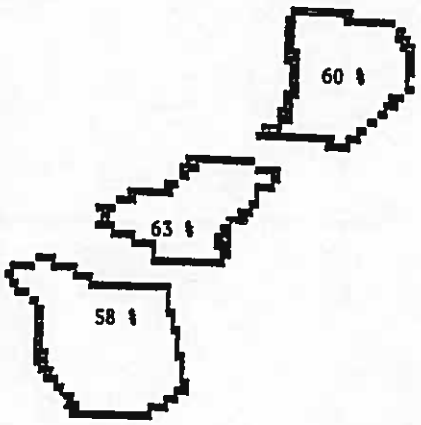
Table 14.25. Refrigerator in Housing Units: 1960 to 1980

Type of Refrigerator	Number			Percents		
	1980	1970	1960	1980	1970	1960
Occupied units	24834	15569	10830	100.0	100.0	100.0
Mechanical	24241	13720	9852	97.6	88.1	91.0
Ice	321	1450	...	1.3	9.3	...
No refrigerator	272	399	978	1.1	2.6	9.0
Owner-occupied units	11469	7165	5028	100.0	100.0	100.0
Mechanical	11188	6013	4384	97.5	83.9	87.2
Ice	155	890	...	1.4	12.4	...
No refrigerator	126	262	644	1.1	3.7	12.8
Renter-occupied units	13365	8404	5802	100.0	100.0	100.0
Mechanical	13053	7707	5468	97.7	91.7	94.2
Ice	166	560	...	1.2	6.7	...
No refrigerator	146	137	334	1.2	1.6	5.8

Note: 1960 has data on electric refrigerators only.
No refrigerator includes not reported.

SOURCE: U.S. Bureau of the Census HC80-1-B54 1980 Table 10; HC(1)-A54 1970 Table 4; Census of Housing Part 9 Chapter 54 1960 Table 2.

Of 28,091 year-round housing units identified in 1980, over 59 percent had air conditioners (Table 14.26). Of those with air conditioners, 33 percent had central air conditioning, 32 percent had 1 individual room unit, and 35 percent had 2 or more room units. By region, the Central area had the most air conditioning units, followed by the North. Most of the housing units had 2 or more individual room units in the North and South; those in the Central area had only 1 room unit.

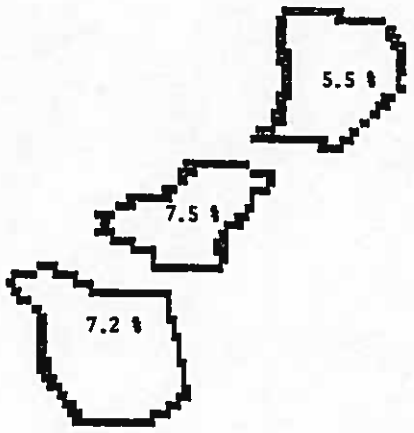


Percent of Units with Air Conditioning

Table 14.26. Air Conditioning In Unit By Region: 1980

Type	Number				Percent		
	Total	North Cntrl	South		North Cntrl	South	
Year-round units.	28091	13175	9247	5669	100.0	100.0	100.0
None.....	11301	4852	3833	2616	40.2	36.8	41.5
Central.....	5567	3455	1308	804	19.8	26.2	14.1
1 ind. room unit..	5366	2529	1961	876	19.1	19.2	21.2
2 or more room units	5857	2339	2145	1373	20.9	17.8	23.2

SOURCE: U.S. Bureau of the Census Summary Tape File 3A Table 120.



Percent of Units with No Vehicle

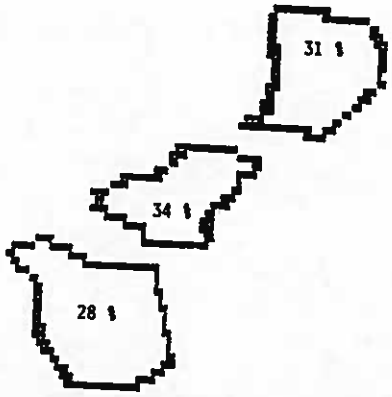
In 1980, only 7 percent of all occupied housing units had no vehicle available to them (Table 14.27). In 45 percent of the occupied households there was 1 vehicle for use; 2 vehicles were available in 35 percent of households, and 13 percent of homes had 3 or more vehicles that could be used. Those residing in the Southern region had the greatest proportion of single-vehicle available households; the North had the highest percentage of households with 2 vehicles for use, and the Central region had the greatest proportion of homes with 3 or more vehicles available for use.

Table 14.27. Vehicles Available in Household: 1980

Vehicles Available	Number				Percent			
	Total	North Cntrl	South		Total	North Cntrl	South	
Occupied units....	24834	11595	8070	5169	100.0	100.0	100.0	100.0
None.....	1622	643	605	374	6.5	5.5	7.5	7.2
1 vehicle.....	11193	5296	3523	2374	45.1	45.7	43.7	45.9
2 vehicles.....	8716	4165	2764	1787	35.1	35.9	34.3	34.6
3 or more vehicles.....	3303	1491	1178	634	13.3	12.8	14.6	12.3

SOURCE: U.S. Bureau of the Census HC80-1-B54 1980 Table 10.

In 1980, 31 percent of all occupied housing units had no telephone, 4 percent had no radio, and 7 percent had no television (Table 14.28). The Central region had the highest proportions of having none of these characteristics. From a Civil Defense standpoint, if information had to be disseminated to the public, it would reach the largest audience if it were relayed over the radio.



Percent of Units with No Telephone

Table 14.28. Selected Characteristics by Region: 1980

Selected Characteristics	Number				Percent			
	Total	North Cntrl	South		Total	North Cntrl	South	
Occupied units.....	24834	11595	8070	5169	100.0	100.0	100.0	100.0
No telephone.....	7793	3638	2735	1420	31.4	31.4	33.9	27.5
No radio.....	1023	443	358	222	4.1	3.8	4.4	4.3
No television.....	1751	736	624	391	7.1	6.3	7.7	7.6

SOURCE: U.S. Bureau of the Census HC80-1-B54 1980 Table 10.

There were telephones in nearly 69 percent of occupied units in 1980 (though they did not necessarily work) (Table 14.29). When reviewed by the age of householder, the age group with the highest percentage of phones were those who were 60 to 64 years of age, followed by those under 60. The elderly (65 and older) had the lowest rate of units with telephones.

Table 14.29. Telephone in Unit by Age of Householder: 1980

Telephone in unit	Age of Householder			
	Total	Under 60 years	60 to 64 years	65 years and over
Total occupied units....	24834	22419	1035	1380
With telephone.....	17041	15415	742	884
Percent with phone.....	68.6	68.8	71.7	64.1

SOURCE: U.S. Bureau of the Census Summary Tape File 3A 1980 Table 119.

Owner-occupied units had higher percentages of telephones in their units than did all renter-occupied units (78 percent to 60 percent), but those units that were occupied with no cash rent had the highest rates of all: 84 percent of those

units had phones (Table 14.30). This was true for each region as well as the island as a whole.

Table 14.30. Telephone in Unit by Tenure and Region: 1980

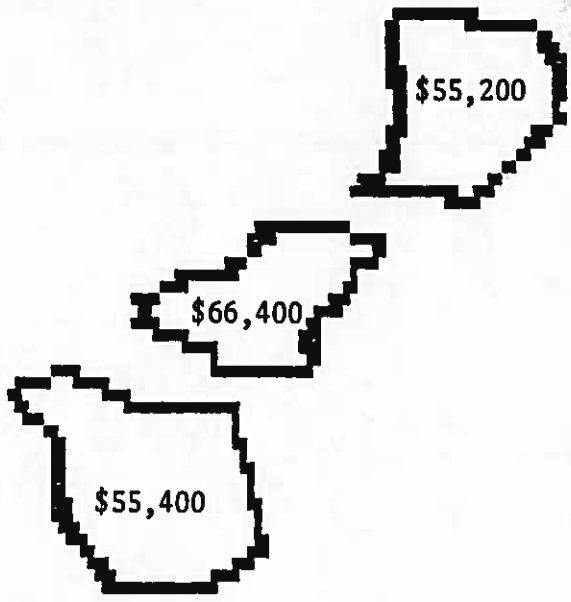
Telephone in Unit	Number				Percent			
	Total	North	Cntrl	South	Total	North	Cntrl	South
Total occupied units...	24834	11595	8070	5169	100.0	100.0	100.0	100.0
With telephone.....	17041	7957	5335	3749	68.6	68.6	66.1	72.5
Renter occupied units..	13365	6651	4089	2625	...	...	...	...
With cash rent.....	7661	4121	2625	915	100.0	100.0	100.0	100.0
With telephone.....	3268	1679	1162	427	42.7	40.7	44.3	46.7
No cash rent.....	5704	2530	1464	1710	100.0	100.0	100.0	100.0
With telephone.....	4784	2228	1083	1473	83.9	88.1	74.0	86.1
Owner occupied units...	11469	4944	3981	2544	100.0	100.0	100.0	100.0
With telephone.....	8989	4050	3090	1849	78.4	81.9	77.6	72.7

SOURCE: U.S. Bureau of the Census Summary Tape File 3A 1980 Table 118.

FINANCIAL CHARACTERISTICS

The value of a housing unit was the respondent's estimate of how much the property (house and lot) or condominium unit would sell for, if it were for sale. For vacant units, value was the price asked for the property.

Table 14.31 shows the value of housing units by region. The responses reflect subjective rather than totally objective views of the value of the unit. Those residing in the South and Central regions stated most frequently that their homes were worth between $60,000 and $79,999, and those in the North felt their units were worth between $50,000 and $59,999. The median amounts of value listed ranged from $55,200 in the North to $66,400 in the Central area.

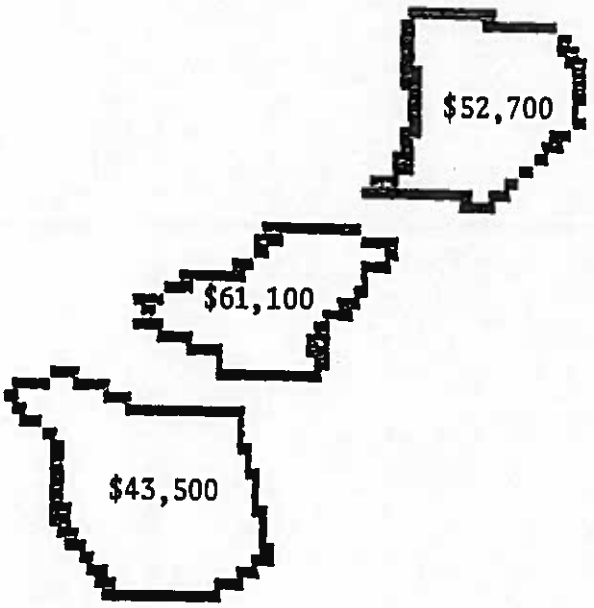


Median Value of Unit

Table 14.31. Value of Housing Units by Region: 1980

Value	Number				Percent			
	Total	North Cntrl	South		Total	North Cntrl	South	
Specified owner-occupied units....	10489	4412	3706	2371	100.0	100.0	100.0	100.0
Less than $10,000.	395	166	89	140	3.8	3.8	2.4	5.9
$10,000-14,999....	298	102	82	114	2.8	2.3	2.2	4.8
$15,000-19,999....	274	88	90	96	2.6	2.0	2.4	4.0
$20,000-24,999....	332	88	119	125	3.2	2.0	3.2	5.3
$25,000-29,999....	393	197	104	92	3.7	4.5	2.8	3.9
$30,000-34,999....	440	202	139	99	4.2	4.6	3.8	4.2
$35,000-39,999....	397	183	117	97	3.8	4.1	3.2	4.1
$40,000-49,999....	1272	665	363	244	12.1	15.1	9.8	10.3
$50,000-59,999....	1770	994	443	333	16.9	22.5	12.0	14.0
$60,000-79,999....	2660	1091	959	610	25.4	24.7	25.9	25.7
$80,000-99,999....	1022	292	551	179	9.7	6.6	14.9	7.5
$100,000-149,999..	745	178	428	139	7.1	4.0	11.5	5.9
$150,000-199,999..	240	67	119	54	2.3	1.5	3.2	2.3
$200,000 or more..	251	99	103	49	2.4	2.2	2.8	2.1
Median.....	$57600	55200	66400	55400	...	...	...	...

Source: U.S. Bureau of the Census HC80-1-A54 1980 Table 4.



Price Asked for Vacant For Sale Unit

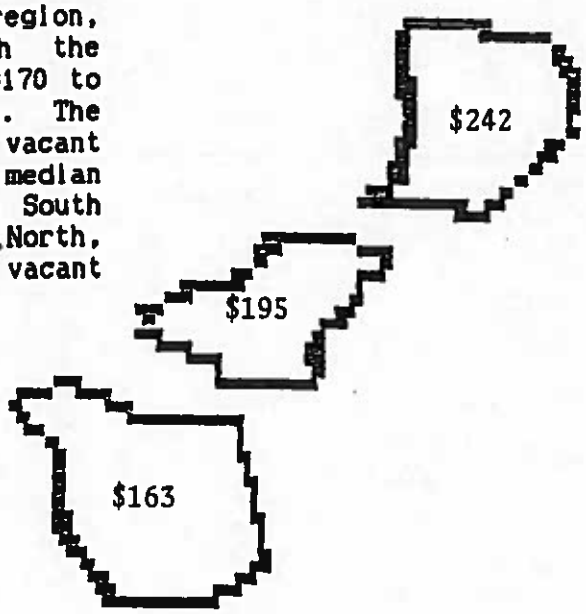
The price asked for vacant for-sale housing units was similar for all 3 regions on Island in 1980: between $60,000 to $79,999 per unit, though those in the North were slightly lower at $50,000 to $59,999 (Table 14.32). The median prices asked per region were slightly lower than the median values per region, except for the North, where the median price was nearly 5 percent higher than the median value given for housing units. The other regions had median prices asked that ranged from 9 percent lower in the Central area to 27 percent lower in the South.

Table 14.32. Price Asked for Vacant For Sale Units by Region: 1980

Price Asked	Number				Percent			
	Total	North	Cntrl	South	Total	North	Cntrl	South
Specified vacant for sale units....	193	96	71	26	100.0	100.0	100.0	100.0
Less than $10,000.	18	9	6	3	9.3	9.4	8.5	11.5
$10,000-14,999....	6	4	1	1	3.1	4.2	1.4	3.8
$15,000-19,999....	5	3	2	0	2.6	3.1	2.8	0.0
$20,000-24,999....	6	2	2	2	3.1	2.1	2.8	7.7
$25,000-29,999....	9	4	3	2	4.7	4.2	4.2	7.7
$30,000-34,999....	11	9	1	1	5.7	9.4	1.4	3.8
$35,000-39,999....	11	6	2	3	5.7	6.2	2.8	11.5
$40,000-49,999....	18	5	10	3	9.3	5.2	14.1	11.5
$50,000-59,999....	30	22	8	0	15.5	22.9	11.3	0.0
$60,000-79,999....	41	16	18	7	21.2	16.7	25.4	26.9
$80,000-99,999....	17	6	10	1	8.8	6.2	14.1	3.8
$100,000-149,999..	16	9	5	2	8.3	9.4	7.0	7.7
$150,000-199,999..	2	0	1	1	1.0	0.0	1.4	3.8
$200,000 or more..	3	1	2	0	1.6	1.0	2.8	0.0
Median.....	$55400	52700	61100	43500	...	...	...	...

Source: U.S. Bureau of the Census HC80-1-A54 1980 Table 4.

The most frequent amounts asked for rent for vacant for-rent units was between $200 to $249 (Table 14.33). By region, this varied only slightly, with the Central and Southern areas asking $170 to $199 and $150 to $169, respectively. The median rent asked for the Island's vacant units was $205. The Northern area median was 18 percent higher at $242; the South 20 percent lower at $163. The North, however, had nearly 4 times as many vacant for-rent units than did the South.

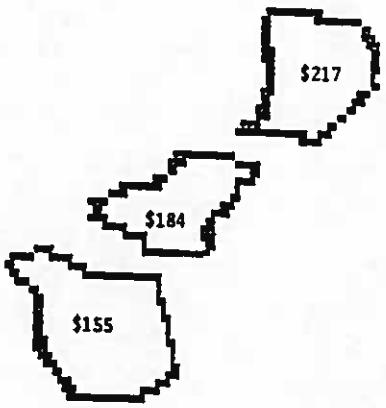


Rent Asked for Vacant for Rent Unit

Table 14.33. Rent Asked for Vacant for Rent Housing Units: 1980

Rent Asked	Number				Percent			
	Total	North Cntrl	South		Total	North Cntrl	South	
Vacant for rent Housing units.....	1347	676	525	146	100.0	100.0	100.0	100.0
Less than $50.....	34	16	10	8	2.5	2.4	1.9	5.5
$50 to $59.....	23	12	7	4	1.7	1.8	1.3	2.7
$60 to $79.....	27	12	9	6	2.0	1.8	1.7	4.1
$80 to $99.....	35	27	6	2	2.6	4.0	1.1	1.4
$100 to $119.....	74	33	24	17	5.5	4.9	4.6	11.6
$120 to $149.....	81	25	41	15	6.0	3.7	7.8	10.3
$150 to $169.....	174	65	77	32	12.9	9.6	14.7	21.9
$170 to $199.....	193	80	108	5	14.3	11.8	20.6	3.4
$200 to $249.....	226	121	82	23	16.8	17.9	15.6	15.8
$250 to $299.....	171	92	61	18	12.7	13.6	11.6	12.3
$300 to $349.....	140	78	51	11	10.4	11.5	9.7	7.5
$350 to $399.....	74	48	22	4	5.5	7.1	4.2	2.7
$400 to $499.....	44	28	15	1	3.3	4.1	2.9	.7
$500 or more.....	51	39	12	0	3.8	5.8	2.3	0.0
Median.....	$205	242	195	163	...	...	...	...

Source: U.S. Bureau of the Census HC80-1-A54 1980 Table 4.



Contract Rent of Unit

Contract rent was the monthly rent agreed to, or contracted for, regardless of any furnishings, utilities or services that may have been included (Table 14.34). The majority of all renter-occupied units paid no cash rent in 1980. Of those that did, the most frequent category of contract rent paid was that of $200 to $249, followed by $250 to $299. This was slightly higher in the Central region, where the most common amount paid was between $250 to $299, and lower in the South, where amounts between $150 to $169 were most often paid.

Table 14.34. Contract Rent of Housing Units by Region: 1980

	Number				Percent			
Contract Rent	Total	North Cntrl	South		Total	North Cntrl	South	
Renter-occupied Housing units.....	13365	6651	4089	2625	100.0	100.0	100.0	100.0
No cash rent.....	5704	2530	1464	1710	42.7	38.0	35.8	65.1
Less than $50.....	386	154	156	76	2.9	2.3	3.8	2.9
$50 to $59.....	185	73	71	41	1.4	1.1	1.7	1.6
$60 to $79.....	305	79	152	74	2.3	1.2	3.7	2.8
$80 to $99.....	167	71	61	35	1.2	1.1	1.5	1.3
$100 to $119.....	501	224	183	94	3.7	3.4	4.5	3.6
$120 to $149.....	548	272	175	101	4.1	4.1	4.3	3.8
$150 to $169.....	927	442	351	134	6.9	6.6	8.6	5.1
$170 to $199.....	919	516	350	53	6.9	7.8	8.6	2.0
$200 to $249.....	1132	687	344	101	8.5	10.3	8.4	3.8
$250 to $299.....	1102	646	366	90	8.2	9.7	9.0	3.4
$300 to $349.....	676	430	181	65	5.1	6.5	4.4	2.5
$350 to $399.....	351	214	107	30	2.6	3.2	2.6	1.1
$400 to $499.....	280	187	77	16	2.1	2.8	1.9	.6
$500 or more.....	182	126	51	5	1.4	1.9	1.2	.2
Median.....	$193	217	184	155	...	...	...	...

Source: U.S. Bureau of the Census HC80-1-A54 1980 Table 4.

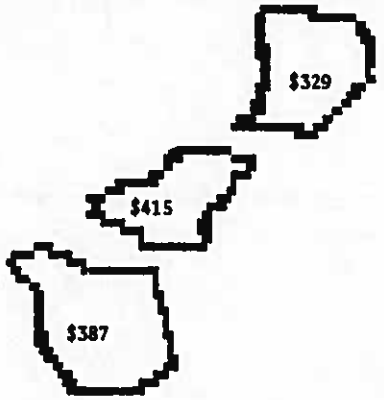
Gross rent differs from contract rent by the addition of the estimated average monthly cost of utilities and fuels, if these were paid for by the renter in addition to rent (Table 14.35). Overall, for those who paid cash rent, the gross amount was most commonly in the range of $200 to $249 per month, followed by $400 or more. Only the Southern region varied from this pattern: their most frequent rent category was that of $400 or more, followed by $200 to $249. The

South also had the highest frequency of those paying no cash rent, at 69 percent of renter-occupied units.

Table 14.35. Gross Rent by Region: 1980

Gross Rent	Number				Percent			
	Total	North	Cntrl	South	Total	North	Cntrl	South
Renter-occupied Housing Units.....	13365	6651	4089	2625	100.0	100.0	100.0	100.0
Less than $50.....	58	41	13	4	.4	.6	.3	.2
$50 to $59.....	52	33	12	7	.4	.5	.3	.3
$60 to $79.....	108	54	39	15	.8	.8	1.0	.6
$80 to $99.....	179	58	77	44	1.3	.9	1.9	1.7
$100 to $124.....	345	134	145	66	2.6	2.0	3.5	2.5
$125 to $149.....	406	172	161	73	3.0	2.6	3.9	2.8
$150 to $174.....	525	206	205	114	3.9	3.1	5.0	4.3
$175 to $199.....	651	305	244	102	4.9	4.6	6.0	3.9
$200 to $249.....	1489	801	539	149	11.1	12.0	13.2	5.7
$250 to $299.....	1039	614	316	109	7.8	9.2	7.7	4.2
$300 to $399.....	1670	1037	515	118	12.5	15.6	12.6	4.5
$400 or more.....	1139	666	359	114	8.5	10.0	8.8	4.3
No cash rent.....	5704	2530	1464	1710	42.7	38.0	35.8	65.1
Median.....$	251	271	239	211	...	...	...	...

Source: U.S. Bureau of the Census Summary Tape File 3A, 1980 Table 124



Monthly Owner Costs for Units with Mortgage

Units with mortgages made up the majority of all owner-occupied housing units, ranging from a high of 82 percent in the Central region, to a low of 65 percent in the South (Table 14.36). For mortgaged units, the monthly owner costs were usually $400 or more a month, for all regions. The second most common amount of monthly owner costs varied by region, with the South area having the highest ($350 to $399) and the North the lowest ($250 to $299).

For unmortgaged units, monthly costs were much lower: from $50 to $74 per month in the South to $75 to $99 in both the North and Central regions. The inclusion of a mortgage significantly affected the amount of costs paid by owners every month.

Table 14.36. Mortgage Status and Selected Monthly Owner Costs: 1980

Monthly Owner Costs	Number				Percent			
	Total	North	Cntrl	South	Total	North	Cntrl	South
Owner-occupied Housing units.....	10489	4412	3706	2371	...	...	...	...
With mortgage...	6802	3104	2368	1330	100.0	100.0	100.0	100.0
Less than $50.....	8	3	4	1	.1	.1	.2	.1
$50 to $59.....	2	0	1	1	.0	0.0	.0	.1
$60 to $79.....	16	7	5	4	.2	.2	.2	.3
$80 to $99.....	33	11	15	7	.5	.4	.6	.5
$100 to $149.....	102	39	43	20	1.5	1.3	1.8	1.5
$150 to $199.....	329	182	96	51	4.8	5.9	4.1	3.8
$200 to $249.....	755	484	172	99	11.1	15.6	7.3	7.4
$250 to $299.....	928	530	255	143	13.6	17.1	10.8	10.8
$300 to $349.....	953	497	261	195	14.0	16.0	11.0	14.7
$350 to $399.....	846	384	267	195	12.4	12.4	11.3	14.7
$400 or more.....	2830	967	1249	614	41.6	31.2	52.7	46.2
Median.....	$366	329	415	387				
No mortgage.....	3687	1308	1338	1041	100.0	100.0	100.0	100.0
Less than $30.....	157	48	47	62	4.3	3.7	3.5	6.0
$30 to $49.....	419	131	132	156	11.4	10.0	9.9	15.0
$50 to $74.....	797	278	274	245	21.6	21.3	20.5	23.5
$75 to $99.....	799	306	276	217	21.7	23.4	20.6	20.8
$100 to $124.....	587	232	212	143	15.9	17.7	15.8	13.7
$125 to $149.....	357	130	140	87	9.7	9.9	10.5	8.4
$150 or more.....	571	183	257	131	15.5	14.0	19.2	12.6
Median.....	$90	91	94	82				

Source: U.S. Bureau of the Census Summary Tape File 3A, Table 133.

SUMMARY

The final table (Table 14.37) in this chapter shows a summary of pertinent housing data from 1960 to 1980. The most appropriate term to use for the changes occurring on Guam for the last 20 years is "growth", growth in all aspects of housing, from the numbers of units available to the addition of amenities in those units. A significant shift to the Northern region is also apparent. With more units being located there, the impact on the infrastructure of the region is becoming more obvious, as is the need for its improvement. Water, power, sewage and telephone services are probably being strained to their limits, and may continue to be as more housing complexes and hotels are added.

Table 14.37. Summary of Housing Characteristics: 1960 to 1980

Characteristic	1980	1970	1960
Total persons	105979	84996	67044
Total housing units	28249	16680	12373
Year-round housing units:			
Total	28091	16676	12373
Median rooms	4.7	4.6	4.7
Percent:			
One unit in structure	74.0	74.3	91.6
5 or more units in structure	15.6	3.7	...
Lacking complete plumbing in building	4.2	18.9	...
Structure 10 yrs old or less	58.7	52.0	...
Structure built before 1940	.3	1.3	...
Source of water public system	99.6	97.7	...
Electric power	98.1	97.7	...
Occupied	24834	15569	10830
Owner occupied	11469	7165	5028
Median rooms	4.8	4.6	4.6
Median number of persons	3.7	...	4.5
Percent:			
1.01 or more persons per room	24.4	38.2	38.4
1 unit in structure	75.9	74.8	92.5
Specified owner:			
Median value ($)	57600	13500	4200
Renter occupied:			
Median contract rent ($)	193	114	76
Median gross rent ($)	251	...	80
Vacancy rate:			
Homeowner	2.3	1.4	...
Rental	9.2	4.8	...

SOURCE: U.S. Bureau of the Census HC80-1-A54 1980 Table 1; Summary Tape File 3A 1980 Table 120; HC80-1-B54 1980 Tables 9, 10, 11; HC(1)-A54 1970 Tables 1,2,3,4,5; Census of Housing 1960 Tables 1,4 and 5.

The cost of obtaining and maintaining housing has also risen in the last 2 decades. As demand grows and space considerations limit the number of units available, the costs will probably continue to rise. Though the vacancy rates shown in Table 14.38 are lower for 1980 than 1970, it should be remembered that 1980 was a period of lower military activity than 1970, so there were fewer military families looking for off-base housing. This situation is expected to change by 1990, since there were several military ships homeported on Guam in the meantime.

As data from the 1990 Census of Housing become available, it will be crucial to compare them to data from previous censuses to chart the changes in growth and distribution of housing on Guam, and assess the further impact on Guam's utilities.

CHAPTER 15
SUMMARY

While the Monograph encompasses a large body of material, there are two populations on Guam whose characteristics are not explored in detail, the elderly and the military. The following sections present profiles of these two important subgroups.

PROFILE OF THE ELDERLY

The elderly are of special concern to demographers these days because of an anticipated large increase in their numbers and proportion of the population. Those who were elderly (65 years and over) in 1980 were born in 1915 or earlier, a time when sanitation and other public health measures had not yet taken a strong grip on Guam. They made up only 2.8 percent of Guam's total population in the 1980 census. By 1990, when the ranks of the elderly will include all those born in 1925 or earlier, their proportion of the population should not rise any higher than 3.3 percent, a very small gain. It will not be until the year 2010 that the impact of the post-World War II 'baby boom' and the changes in nutrition and sanitation promoted by the Naval (and later, civilian) government will be felt. It is important, however, that baseline data on the elderly be collected and analyzed so that any changes in their characteristics can be documented.

Because the elderly on Guam are primarily civilian (96 percent), this analysis will be restricted to civilians. The civilian population in our retabulations of the 1980 census data is that population which was left after active-duty military and their dependents were subtracted from the total population. If an active-duty military person was resident in a household, that household was deemed 'military' and subtracted. If an elderly person was a dependent of an active-duty person, he or she was considered military and removed. The data presented here were derived from Tables 19-22, 24, 29, 35, 36 and 47 of the U.S. Bureau of the Census PC80-1-C/D54, Detailed Social and Economic Characteristics, Special Retabulations.

There were 2870 civilian elderly in 1980, 3.4 percent of the civilian population of 83,226. Slightly over 47 percent were males; the 53 percent if females in the elderly population supports the fact that women generally outlive men. Nearly all (99.5 percent) were in households rather than any form of group quarters. Those that were in some form of group quarters were more than likely confined in the Intermediate Care Facility of the Guam Memorial Hospital. Over half (53 percent) were either the head or spouse of the head of a family household, 36 percent were in a family household with relatives, and only 11 percent were with nonrelatives or in nonfamily households.

Nearly 56 percent were married, 35 percent were widowed, and 6 percent had never married. Most (66 percent) of the never married were females. Nearly 55 percent of those divorced or separated were males while 77 percent of those widowed were females.

There were 8795 children ever born during the reproductive lifetime of civilian elderly women, and 7325 children still alive. Per woman, this was 5.8 children ever born and 4.8 children still alive in 1980. Some of these children would have died young, causing replacement childbearing to take place; this may be

why elderly women reported higher numbers of children ever born and still alive than younger women did.

Just over 57 percent of elderly were born on Guam, 29 percent in the Philippines, 5 percent in the United States, 2 percent in the Northern Marianas, and the remainder elsewhere. Fully 58 percent were Chamorro, 28 percent Filipino, 5 percent White, the remaining 8 percent were of other races. Barely 8 percent spoke English at home; the majority spoke Chamorro (58 percent), with another 30 percent speaking a Philippine language at home.

The elderly were not very mobile; 63 percent lived in the same house as they had in 1975. An additional 13 percent lived in the same district, and 9 percent in another district on Guam. Of those who had not lived on Guam in 1975, 65 percent had lived in the Philippines and 21 percent in the United States. Of the 42 percent of civilians who were not born on Guam, 17 percent migrated before 1950, the period with the highest proportion of migrants. The second most popular period was from 1975 to 1978, when 16 percent of migrants came to Guam, then 1971 to 1974, with 14 percent. Fully 58 percent of these migrants were permanent residency aliens in 1980, and 38 were naturalized citizens, with the remainder having some other form of citizenship status.

More due to cultural demands than for any other reason, the elderly were not as formally educated as younger age groups. Most (64 percent) had some elementary school (up to 8th grade), and some (14 percent) had some high school, but only 18 percent were high school graduates, and only 6 percent had a 4 year college degree or more.

By age 65, most persons had retired, leaving only 491 persons (17 percent) in the labor force, over 98 percent of whom were employed in 1980. Of those employed, 43 percent were private wage and salary workers, 29 percent worked for the local government, and 19 percent for the federal government. Only 8 percent were self-employed, and just over 1 percent were either unpaid family workers or subsistence workers. Fully 30 percent of employed persons were in service occupations, 23 percent in managerial and professional specialties, 15 percent in precision production, craft and repair, and 13 percent were operators, fabricators, and laborers (mostly in transportation and material moving occupations). The industry with the highest representation among the elderly was that of public administration (21 percent), followed by retail trade (17 percent) and professional and related services (also 17 percent). Over 97 percent of those in the labor force in 1979 worked in 1979; 73 percent worked for 50 to 52 weeks; 76 percent worked 35 or more hours per week.

Nearly 75 percent of the elderly had an income in 1980, but about 1 of 3 earned less than $2,000. The median income was about $3,976 and the mean income about $5,124. With poverty level incomes for the elderly set between $4,000 and $5,000, 58 percent of elderly with income would be at poverty level.

In short, the elderly on Guam in 1980 were most likely to be civilian, female, living in a household as a head of household or spouse of head, married, born on Guam, and Chamorro. If female, she would have had 5.8 children, with 4.8 of them still alive. They would be most likely to speak Chamorro at home, not have much formal education, and be living in the same house as they had in 1975. Most would not be in the labor force, but they would have an income; for most, however, that income would at about poverty level.

With this baseline data from 1980, comparisons can be made with data from the 1990 census to document changes in the characteristics of the elderly on Guam.

PROFILE OF THE MILITARY

The special tabulations developed to disaggregate military households from civilian households provide data on age and sex of the military population. The data used in this section are from PC80-1-C/D54 and PC80-1-C/D54 Civilians, Tables 19, 21, 22, 23, and 46.

Altogether, there were 22,753 persons (21 percent) living in households or group quarters which contained only military. Of these, 13,265 (58 percent) were males, compared to 51 percent of males in civilian households or in group quarters.

The median ages for the two populations did not differ significantly, but the distributions were significantly different. Although the median for the whole population was 22.3 years, the median for civilians was slightly less (21.8 years) and the median for the military was slightly more (22.9 years). The median for males in the military was about a year older than for females, while the median for female civilians was about a half year older than for males.

Military personnel seem to have higher fertility than civilians, since 14 percent were children less than 5 years old in military households, compared to 12 percent in civilian households. However, examining fertility data gathered in the census shows that civilian females had 2,738 children ever born per 1,000 women, while military females had only 1,541 children ever born per 1,000 women.

Because they are in the military, more than 1 in 5 of all military persons were 20 to 24 compared to only 8 percent of the civilians. The percentage of military in the 25 to 29 year age group was double that of the civilians. More than 12 percent of the military population was 30 to 34 years old compared to only 8 percent of the civilian population.

On the other hand, slightly larger proportions of persons in the 35 to 44 year old age group were civilian than were military, partially because of large numbers of immigrants in this age group. And, larger proportions of persons older than 44 were civilian than were military. More than 9 percent of the civilian population was 45 to 54 years old, compared to less than 2 percent of the military population. Only about 1 percent of the military population was 55 years old and over, compared to more than 9 percent of the civilian population.

The percentage distribution by age group also shows differences. Altogether females were 48 percent of the population on Guam in 1980; while females constituted almost half of the civilian population, they were only about 4 in every 10 of the military population (and, of course, many of these were dependents). Among the civilians, in the young ages females were just slightly less than half of all persons and were more than half of those 20 to 35 years old. For ages 35 to 64, however, there were more males than females in the civilian population, probably because of the selective nature of international migration, with larger numbers of male immigrants than females. For the elderly, females were a larger percentage of the civilian population than were males.

The military population showed a very different pattern. More than 2 of every 3 military persons between 15 and 24 were male, and while the proportions decreased to below 6 in 10 for persons 25 to 34, more than 6 in 10 of those 35 to 44 were males. More than half of the persons 55 years and over in military households, however, were female.

There is some evidence from these data that there is a discrepancy between the military and civilian data for persons 20 to 29 which show surpluses of civilian females. Military males who were on ships and left their families behind would have been recorded as civilian since no one in the household would have been identified as military; hence, this surplus of civilian females in the age group was probably at least partially explained by the fact that many of these women were married to military personnel who were on ships and left their families behind. (Their children are less easily disaggregated from all children.)

There were 10,125 persons (10 percent of Guam's total population) in the military in 1980, including 9,224 males and 901 females. The median age of these persons was 26.5 years, more than 4 years more than for the rest of the military households (because so many of the other people in military households were children), and about 4 years more than for the general population of Guam. Military persons constituted more than half of all persons 20 to 24 years old (67 percent of the males and 33 percent of the females in that age group), and were 49 percent of the persons 25 to 29 years old.

There were more than 10 military males for every military female in 1980. None of the age groups showed anything like equal proportions. Although there were fewer than 10 males per female for persons less than 29 and more than 55, there were 25 males for every female 30 to 34, and 51 for those 35 to 44 years old.

The civilian community of Guam in 1980 had a larger average household size than did the military, 4.25 persons and 3.41 persons, respectively. For all military households, there were more females than males under 15 and over 55, but males predominated in the middle years, with more than 2 males per female 15 to 24 years old. The problem with the ratio of males to females 20 to 29 in the civilian population is also seen here, since there is a great surplus of females here, once again indicating that some of these females should more properly have been placed in the military category.

The military had greater proportions of its population married (71 percent) than did the civilian population (62 percent), but had fewer that were single (26 percent of military to 31 percent of civilians), widowed (1 percent of military to 4 percent of civilians) or divorced (2 percent of military to 3 percent of civilians). Military males had slightly higher proportions single (34 percent) than did civilian males (33 percent), but the percentages married and divorced were about the same. There were more civilian males who were widowed (2 percent) than there were military widowers (less than 1 percent). Military females were more married (85 percent) than were civilian females (60 percent), but had lesser proportions single, widowed, or divorced.

The military population spoke only English in the majority of homes (68 percent), followed by other, unspecified languages (18 percent), Philippine languages (9 percent), and Chamorro (5 percent). They were mobile: 67 percent had

lived in the U.S. in 1975, and 11 percent in Asia or elsewhere; only 10 percent had lived on Guam in 1975.

Over 16 percent of the military population had been born outside Guam or the U.S.; 54 percent of these persons were permanent resident aliens, 33 percent were naturalized citizens, 4 percent were temporary aliens, and 9 percent had some other U.S. citizenship status. Nearly 29 percent of the civilian population had been born outside Guam or the U.S.; 51 percent were permanent resident aliens, 38 percent naturalized citizens, 10 percent were temporary aliens, and 2 percent had some other status.

Of the 22,753 military persons on Guam in 1980, nearly 23 percent were 3 years old and older and enrolled in school, compared to 37 percent of the civilian population. Of the military population enrolled, 6 percent were in pre-kindergarten, 65 percent in elementary (K-8), 12 percent in secondary, and 17 percent in post-secondary schools. In the civilian population, the proportions enrolled were 2 percent in pre-kindergarten, 61 percent in elementary, 26 percent in secondary, and 10 percent in post-secondary.

The military had higher levels of attainment than did the civilian population: while 2 percent of civilians had no schooling, far less than 1 percent of the military had not gone to school. Over 88 percent of the military population had graduated from high school, compared to 60 percent of the civilian population, and 45 percent of the military had completed some college, while only 32 percent of civilians had done so.

Over 69 percent of the military were 16 years old and older in 1980; the civilian proportion was just over 61 percent. Over 80 percent of the military population was in the labor force, and 98 percent were employed in 1980. The figures for the civilian population are similar: just over 62 percent of the civilian population 16 years old and older were in the labor force, with over 96 percent employed.

The military person on Guam in 1980 was, in summary, more likely to be male, married, between 20 and 34 years old, English-speaking, a high school graduate, employed, a U.S. citizen, and had lived in the U.S. in 1975.

POPULATION MONOGRAPH

The past 14 chapters have presented a wealth of data about Guam's past; noticeable trends have been pointed out as being likely to continue to 1990. A short summary of each chapter is presented below.

In the first chapter, a short history of the island was presented and it was shown that a shift in geographic distribution of the population from the Central to the Northern region had occurred in the last 20 years.

Chapter 2, on age and sex distribution of the island's population, demonstrated that the population distribution of the island was not "normal" due to the military presence and immigration here. While Guam's median age was less than that of the U.S., the population was still aging. The median age of the civilian females was higher than civilian males; the opposite was true of the military, and the military median age was higher than the civilian. The

proportion of Guam's population that was under 5 years old was about 12 percent; the proportion of elderly was 3 percent.

From 1930 onwards, the sex ratio of the population was greater than 103; it was 109 in 1980. The sex ratio was higher for the military than for the civilian population. The dependency ratio was 60.5 in 1980. The military dominated in the populations less than 5 years old and from 20 to 34, while civilians were predominant at all other ages. Special tabulations done to separate the military and civilian populations did not have accurate methods to disaggregate dependent spouses whose husbands were not in the home, thus causing surpluses of civilian females in some age groups.

The average household size decreased from over 5 persons per household to just over 4 in 1980, as shown in Chapter 3. The distribution of households mirrored that of persons, moving from the Central region to the North. The South had the largest household sizes for many census periods, but the percentage of households located there has steadily decreased since 1960. The proportion of households headed by females with children under 18 years of age has increased, married couple families with children less than 18 has decreased. The elderly were living in family households in 1980, either their own or a relative's; few were institutionalized. With the opening of the first senior day care center in 1987, the institutionalized population may increase by 1990.

Both marriage and divorce were increasing (Chapter 4); between 1970 and 1980 the number of divorced males grew by 16 percent and divorced females by 78 percent. The number of separated males increased by 41 percent and separated females by 50 percent. The age at first marriage of females increased by 8 percent, showing that females were delaying first marriage, most likely in favor of finishing school and starting careers. By geographic region, the North had the highest proportion of married persons and the Central area the greatest number of those single, widowed, or divorced.

Between 1980 and 1984, vital statistics showed the Japanese contributed the greatest number of grooms, with Chamorros second; this was true for brides for most of that period as well. White males were most likely to get divorced during this period; for females, Chamorros were most likely. For both sexes, Chinese were least likely to get a divorce. Chamorros and those of "Other" races were most likely to be in same-race marriages, while Whites were most likely to be in mixed-race marriages. For all five years, Caucasians had higher rates of both same-race and mixed-race divorces than any other ethnic group.

Both census and vital statistics data show fertility is still high, compared to U.S. figures, though it is slowly decreasing, as was shown in Chapter 5. The average number of children has decreased from 3.20 in 1980 to 3.15 in 1985. The mean length of a generation, the time it takes for a woman to have a female child to replace herself, fell from 27.2 years in 1980 to 26.4 years in 1985.

Mortality is also decreasing, mostly due to improved living conditions. Guam is experiencing an epidemiological transition, where the cause of death has changed from communicable diseases to chronic diseases. Recent death data presented in Chapter 6 show that both males and females die most often between 45 to 64 years of age, but more males do so than females. Chamorros, Filipinos, and Caucasians die proportionate to their presence in the overall population. Life table analysis has shown that life expectancy at birth has increased for both

sexes between 1971 and 1981, but more so for males than for females, though females have a higher life expectancy than males.

In Chapter 7, Migration, it was shown that 51 percent of Guam's population in 1980 were migrants. When the military was removed, only 40 percent were migrants. The United States and Asia were the greatest source of migrants to Guam. The most common period of migration to Guam was between 1979 and early 1980, except for those from the Philippines, who came most often between 1960 and 1969. The majority of migrants were between 20 and 64 years of age, in the labor force here, and were born in the same location as their fathers had been. Many persons who had lived away from Guam between 1970 and 1980 came back in the period 1979 and 1980. Most had been away for over 6 years; the main reason for their absence was either service in the Armed Forces, or attendance at school.

Chamorros continue to be the largest single ethnic group on Guam (Chapter 8), though at the lowest levels recorded in any census this century. Whites were second in numbers here, Filipinos third. The proportions of Whites and Filipinos has been increasing, that of Chamorros decreasing. Fully 78 percent of full Chamorros were born on Guam, as were 61 percent of part-Chamorros. The median age of Chamorros was the lowest of any ethnic group, Filipino's was highest. Almost 60 percent of part Chamorros were less than 15 years of age, as were 40 percent of full Chamorros. Whites were 20 to 44 years of age, Filipinos were 35 to 44 years. About 2 out of 3 of those 16 years and older were in the labor force; only 55 percent of Chamorros were in labor force, compared to 70 percent of Filipinos and 80 percent of Whites. This was partly due to small numbers of Chamorros in the Armed Forces or working only part time. Those in the "Other" ethnic groups represented only 9 percent of the population but 63 percent were in the labor force. By industry, Chamorros were mostly in the fields of public administration or professional and related services, Filipinos in retail trade or construction and mining, Whites were in professional and related services or retail trade, and others were in retail trade or construction and mining. Of the population 5 years and older, 36 percent spoke only English at home; except for Whites, no other group spoke only English in more than half of the homes. Less than 1 percent spoke no English at all. Older persons were less likely than younger ones to speak English at home.

Chapter 9 dealt with education on Guam. Both school enrollment and educational attainment have increased since 1940, but the magnitude of the increase was somewhat moderated by the presence of the military. The proportion of the population who had completed 4 years of high school increased from 5 percent in 1940 to 66 percent in 1980, while the proportion completing 4 years of college increased from 10 percent in 1940 to 11 percent in 1980. The proportion of college graduates increased for males (8 percent in 1940 to 11 percent in 1980) and decreased for females (12 percent in 1940 to 11 percent in 1980). It was found that a child's home language affected his high school completion rate: those speaking only English at home had non-completion rates of 6 percent, while those who spoke another language at home had rates that ranged from 13 percent overall to 18 percent for those who spoke their other home language more frequently than they did English.

Labor Force chapter showed that female participation in the labor force doubled between 1970 and 1980, especially for those with children under 18 years of age. Persons born in the United States (80.6 percent) and Asia (69.4 percent) were more likely to be in the labor force than those born in other places, most

notably the former Trust Territory (53.1 percent) or the Commonwealth of the Northern Marianas (49.7 percent). Persons from the latter locations most often come to Guam to pursue a higher education. Those with higher levels of educational attainment were more likely to be employed.

Private sector employment has increased since 1970, with retail and wholesale trade showing growth (Chapter 11). Though construction did not show growth, it is expected to do so after 1980. Agriculture, small industry and selected services are expected to show large amounts of growth by 1990. Female employment has steadily increased in the past 30 years. In almost all industry categories, female employment figures show steady increases. Although it is certain that the female labor force is holding a larger portion of the Guam job market, the data still suggest that the quality of jobs held by the increasing numbers of women workers is lower than jobs held by their male counterparts.

The percentage of labor force employed in public administration has steadily decreased over the years, a trend which is expected to continue. This trend is probably beneficial to Guam's economy as the additional percentage of the labor force will be available to fuel the private sector further, which tends to be more efficient compared to the government sector. Retail and wholesale trade has shown a steady increase, and is expected to keep the same trend in the years to come. Guam's transition to a commercial economy (compared to a public sector economy) is evident in the figures obtained in the 1980 census. Also, Guam's economy is steadily increasing its service-oriented industry base, and should tailor its education/training programs to prepare the labor force for such jobs. Furthermore, females on Guam have good potential to share an equal footing in Guam's employment opportunities. Although women still tend to lag in vertical mobility in certain industries, with careful encouragement this too should change in the future.

The median household income for Guam in 1979 was $15,752, the median family income was $16,203, and the median income of unrelated individuals was $6,713 (Chapter 12). The Central region of Guam had the highest median incomes; the Southern region had the lowest. The mean incomes of households, families, and unrelated individuals were $21,595, $17,089, and $8,461, respectively. The Central and Southern regions again had the highest and lowest incomes, respectively. Wage and salary incomes were the highest of any type of income earned, and farm income was the lowest. Per capita income increased by 96 percent between 1969 and 1979, from $3,936 in 1969 (in 1979 dollars) to $4,793 in 1979. The per capita income of the U.S. for 1979 was $7,298, a figure that is 52 percent higher than Guam's per capita income for the same period.

The number of housing units increased by 69 percent between 1970 and 1980, with most of this increase occurring in the North. The median number of rooms per housing unit has remained at about 5 for the past 3 censuses. There was an increase in the number of buildings that had 5 or more units, from 4 percent in 1970 to 16 percent in 1980, showing the increase in building of apartments. Most (over 99 percent) housing units were connected to the public water, sewer, and power systems; nearly 70 percent of homes had telephones in 1980. The median value of owner occupied homes increased from $4,200 in 1960 to $58,000 in 1980. The median contract rent asked for renter occupied units increased from $76 in 1960 to $196 in 1980.

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BUREAU OF THE CENSUS



WASHINGTON, D.C. 20233

1980 Census of Population and Housing

GUAM

TO THE ENUMERATOR:

1. Fill section A on this page.
2. Fill pages 1 through 5.
3. Fill a pair of facing pages for each person listed on pages 2 and 3.
4. Complete page 20.

Section A	
Location or address	
D.O.	A1. ED number
A4. Block number	A6. Housing unit serial number

Your answers are confidential

By law (title 13, U.S. Code), census employees are subject to fine and/or imprisonment for any disclosure of your answers. Only after 72 years does your information become available to other government agencies or the public. The same law requires that you answer the questions to the best of your knowledge.

Please continue ↗

Form D-80 G

Form Approved: O.M.B. No. 41-S79065

Question 1

List in Question 1

- Family members living here, including babies still in the hospital
- Relatives living here
- Lodgers or boarders living here
- Other persons living here
- College students who stay here while attending college even if their parents live elsewhere
- Persons who usually live here but are temporarily away (including children in boarding school below the college level)
- Persons with a home elsewhere but who stay here most of the week while working

Do Not List in Question 1

- Any person away from here in the Armed Forces
- Any college student who stays somewhere else while attending college
- Any person who usually stays somewhere else most of the week while working there
- Any person away from here in an institution such as a home for the aged or mental hospital
- Any person staying or visiting here who has a usual home elsewhere

1. What is the name of each person who was living here on Tuesday, April 1, 1980, or who was staying or visiting here and had no other home?

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

Note

If everyone here is staying only temporarily and has a usual home elsewhere, please mark this box ☐

Then please:

- **ask the double underlined questions on pages 3 through 5 only,**
  and
- **enter the address of this household's usual home on page 20.**

Please continue →

ALSO ANSWER THE HOUSING QUESTIONS ON PAGE 3

Here are the QUESTIONS

These are the columns for ANSWERS

Please fill one column for each person listed in Question 1.

	PERSON in column 1	PERSON in column 2
	Last name First name — Middle initial	Last name First name — Middle initial
2. How is . . . related to *(Insert name of person in column one)*? *Fill one circle.* *If "Other relative" of person in column 1, give exact relationship, such as wife's mother, grandson, etc.*	*START in this column with the household member (or one of the members) in whose name the home is owned or rented. If there is no such person, start in this column with any adult household member.*	If relative of person in column 1: ○ Husband/wife ○ Father/mother ○ Son/daughter ○ Other relative → ○ Brother/sister If not related to person in column 1: ○ Roomer, boarder ○ Other nonrelative → ○ Roommate ○ Paid employee
3. Sex. *Ask if not evident by name or by observation.* *Fill one circle.*	○ Male ○ Female	○ Male ○ Female
4. What is . . .'s ethnicity?	Ethnicity: *(For example: Carolinian, Chamorro, Filipino, Japanese, Korean, Marshallese, Palauan, Samoan, Tongan, etc.)*	Ethnicity: *(For example: Carolinian, Chamorro, Filipino, Japanese, Korean, Marshallese, Palauan, Samoan, Tongan, etc.)*
5. What is . . .'s age, month, and year of birth? *a. Print age at last birthday.* *b. Print month and fill one circle.* *c. Print year in the spaces, and fill one circle below each number.*	a. Age at last birthday c. Year of birth: 1 ● 8 ○ 9 ○ 0 ○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 ○ 7 ○ 8 ○ 9 ○ b. Month of birth ○ Jan.—Feb.—Mar. ○ Apr.—May—June ○ July—Aug.—Sept. ○ Oct.—Nov.—Dec.	a. Age at last birthday c. Year of birth: 1 ● 8 ○ 9 ○ 0 ○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 ○ 7 ○ 8 ○ 9 ○ b. Month of birth ○ Jan.—Feb.—Mar. ○ Apr.—May—June ○ July—Aug.—Sept. ○ Oct.—Nov.—Dec.
6. Is . . . *(read answer categories)* — *Fill one circle*	○ Now married ○ Divorced ○ Consensually married ○ Separated ○ Widowed ○ Never married	○ Now married ○ Divorced ○ Consensually married ○ Separated ○ Widowed ○ Never married
7. Since February 1, 1990, has . . . attended regular school or college at any time? *Fill one circle. Count Head Start, pre-kindergarten, kindergarten, elementary school, and schooling which leads to a high school diploma or college degree.*	○ No, has not attended since February 1 ○ Yes, public school, public college ○ Yes, private, church-related ○ Yes, private, not church-related	○ No, has not attended since February 1 ○ Yes, public school, public college ○ Yes, private, church-related ○ Yes, private, not church-related
8. What is the highest grade (or year) of regular school . . . has ever attended? *Fill one circle.* *If now attending school, mark grade person is in. If high school was finished by equivalency test (GED), mark "12."*	Highest grade attended: ○ Pre-kindergarten ○ Kindergarten Elementary through high school *(grade or year)* 1 2 3 4 5 6 7 8 9 10 11 12 ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ College *(academic year)* 1 2 3 4 5 6 7 8 or more ○ ○ ○ ○ ○ ○ ○ ○ ○ Never attended school — *Skip question 9*	Highest grade attended: ○ Pre-kindergarten ○ Kindergarten Elementary through high school *(grade or year)* 1 2 3 4 5 6 7 8 9 10 11 12 ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ College *(academic year)* 1 2 3 4 5 6 7 8 or more ○ ○ ○ ○ ○ ○ ○ ○ ○ Never attended school — *Skip question 9*
9. Did . . . finish the highest grade (or year) attended? *Fill one circle.*	○ Now attending this grade *(or year)* ○ Finished this grade *(or year)* ○ Did not finish this grade *(or year)*	○ Now attending this grade *(or year)* ○ Finished this grade *(or year)* ○ Did not finish this grade *(or year)*
	FOR CENSUS USE ONLY — A. ○ I ○ N ○ ○	FOR CENSUS USE ONLY — A. ○ I ○ N ○ ○
	2. 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4	2. 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4
	4. 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9	4. 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9

PERSON in column 7

Last name

First name — Middle initial

If relative of person in column 1:

- ○ Husband/wife
- ○ Son/daughter
- ○ Brother/sister
- ○ Father/mother
- ○ Other relative →

If not related to person in column 1:

- ○ Roomer, boarder
- ○ Roommate
- ○ Paid employee
- ○ Other nonrelative →

- ○ Male
- ○ Female

Ethnicity:

(For example: Carolinian, Chamorro, Filipino, Japanese, Korean, Marshallese, Palauan, Samoan, Tongan, etc.)

a. Age at last birthday

b. Month of birth

- ○ Jan.—Feb.—Mar.
- ○ Apr.—May—June
- ○ July—Aug.—Sept.
- ○ Oct.—Nov.—Dec.

a. Year of birth

1 ● 8 ○ 9 ○ | 0 ○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 ○ 7 ○ 8 ○ 9 ○ | 0 ○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 ○ 7 ○ 8 ○ 9 ○

- ○ Now married
- ○ Consensually married
- ○ Widowed
- ○ Divorced
- ○ Separated
- ○ Never married

- ○ No, has not attended since February 1
- ○ Yes, public school, public college
- ○ Yes, private, church-related
- ○ Yes, private, not church-related

Highest grade attended:

○ Pre-kindergarten ○ Kindergarten

Elementary through high school *(grade or year)*

1 2 3 4 5 6 7 8 9 10 11 12

○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○

College *(academic year)* 1 2 3 4 5 6 7 8 or more

○ ○ ○ ○ ○ ○ ○ ○

○ Never attended school — *Skip question 9*

- ○ Now attending this grade *(or year)*
- ○ Finished this grade *(or year)*
- ○ Did not finish this grade *(or year)*

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	○ I	○ N	○ ○

2. ○ I 2 3 4 5 6 7 8 9 ○ I 2 3 4

4. ○ I 2 3 4 5 6 7 8 9 ○ I 2 3 4 5 6 7 8 9 ○ I 2 3 4 5 6 7 8 9

NOW PLEASE ANSWER QUESTIONS H1—H37 FOR YOUR HOUSEHOLD

H1. Did you leave anyone out of the list of persons living here because you were not sure if the person should be listed — *for example, a new baby still in the hospital, a lodger who also has another home, or a person who stays here once in a while and has no other home?*

- ○ Yes — *Determine whether to add person.*
- ○ No

H2. Did you list anyone in the list of persons living here who is away from home now — *for example, on a vacation or in a hospital?*

- ○ Yes — *Determine whether person should remain listed.*
- ○ No

H3. Is anyone visiting here who is not already listed?

- ○ Yes — *Determine whether to add person.*
- ○ No

H4. Do you enter your living quarters —

- ○ Directly from the outside or through a common or public hall?
- ○ Through someone else's living quarters?

H5. When did . . . *(Insert name of person in column one)* **move into this house (or apartment)?**

- ○ 1979 or 1980
- ○ 1975 to 1978
- ○ 1970 to 1974
- ○ 1960 to 1969
- ○ 1950 to 1959
- ○ 1949 or earlier
- ○ Lived here since birth

H6. Which best describes this building? *(Include all apartments, flats, etc., even if vacant).*

- ○ A one-family house detached from any other house
- ○ A one-family house attached to one or more houses
- ○ A building for 2 families
- ○ A building for 3 or 4 families
- ○ A building for 5 to 9 families
- ○ A building for 10 to 19 families
- ○ A building for 20 to 49 families
- ○ A building for 50 or more families
- ○ A mobile home or trailer, tent, van, etc.
- ○ Boat

H7. What is the main type of material used for the outside walls of this building? *Read each category and fill one circle.*

- ○ Poured concrete
- ○ Concrete blocks
- ○ Metal
- ○ Wood
- ○ Thatch
- ○ Other
- ○ No walls

H8. What is the main type of material used for the roof of this building? *Read each category and fill one circle.*

- ○ Poured concrete
- ○ Metal
- ○ Wood
- ○ Thatch
- ○ Other

H9. About when was this building originally built? *Mark when the building was first constructed, not when it was remodeled, added to, or converted.*

- ○ 1979 or 1980
- ○ 1975 to 1978
- ○ 1970 to 1974
- ○ 1960 to 1969
- ○ 1950 to 1959
- ○ 1940 to 1949
- ○ 1939 or earlier

H10. How many rooms do you have in your living quarters? *Do not count bathrooms, porches, balconies, or halls.*

- ○ 1 room
- ○ 2 rooms
- ○ 3 rooms
- ○ 4 rooms
- ○ 5 rooms
- ○ 6 rooms
- ○ 7 rooms
- ○ 8 rooms
- ○ 9 or more rooms

H11. How many bedrooms do you have? *Count rooms used mainly for sleeping even if used also for other purposes.*

- ○ No bedroom
- ○ 1 bedroom
- ○ 2 bedrooms
- ○ 3 bedrooms
- ○ 4 bedrooms
- ○ 5 or more bedrooms

H12. Do you get water from —

- ○ A public system?
- ○ An individual well?
- ○ A catchment, tanks, or drums?
- ○ A public standpipe or street hydrant?
- ○ Some other source *(spring, river, creek, etc.)?*

H13. Is there hot and cold piped water in this building?

- ○ Yes, hot and cold piped water in this building
  - What type of energy does your water heater (tank type) use most?
    - ○ Electricity
    - ○ Gas
    - ○ Solar energy
    - ○ Other fuels
- ○ No, only cold piped water in this building
- ○ No piped water in this building

H14. Is there a bathtub or shower in this building?

- ○ Yes
- ○ No

H15. Does this building have a flush toilet?

- ○ Yes, inside this building
- ○ Yes, outside this building
- ○ No — *If "No," what type of toilet?*
  - ○ Outhouse or privy
  - ○ Other or none

H16. Is this building connected to a public sewer?

- ○ Yes, connected to public sewer
- ○ No, connected to septic tank or cesspool
- ○ No, use other means

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A4. Block number

0 0 0 | 1 1 1 | 2 2 2 | 3 3 3 | 4 4 4 | 5 5 5 | 6 6 6 | 7 7 7 | 8 8 8 | 9 9 9

A6. Serial number

0 0 0 0 | 1 1 1 1 | 2 2 2 2 | 3 3 3 3 | 4 4 4 4 | 5 5 5 5 | 6 6 6 6 | 7 7 7 7 | 8 8 8 8 | 9 9 9 9

B. Type of unit or quarters

Occupied
- ○ First form
- ○ Continuation

Vacant
- ○ Regular
- ○ Usual home elsewhere

Group quarters
- ○ First form
- ○ Continuation

For Vacant Units

C1. Is this unit for —
- ○ Year round use
- ○ Seasonal use — *Skip C2, C3, and D.*

C2. Vacancy status
- ○ For rent
- ○ For sale only
- ○ Rented or sold, not occupied
- ○ Held for occasional use
- ○ Other vacant

C3. Is this unit boarded up?
- ○ Yes
- ○ No

D. Months vacant
- ○ Less than 1 month
- ○ 1 up to 2 months
- ○ 2 up to 6 months
- ○ 6 up to 12 months
- ○ 1 year up to 2 years
- ○ 2 or more years

E. Indicators

○ ○ Pop /F

○ ○

F. Total persons

0 0 0 | 1 1 1 | 2 2 2 | 3 3 3 | 4 4 4 | 5 5 5 | 6 6 6 | 7 7 7 | 8 8 8 | 9 9 9

ANSWER THESE QUESTIONS

H17. Are your main cooking facilities inside or outside this building?

- ○ Inside this building
- ○ Outside this building

} What type of cooking facilities are these?

- ○ Electric stove
- ○ Gas stove
- ○ Kerosene stove
- ○ Other *(fireplace, hotplate, etc.)*
- ○ No cooking facilities

H18. Is there a refrigerator in your living quarters?

- ○ Mechanical
- ○ Ice
- ○ No refrigerator

H19. Does your living quarters have electric power?

- ○ No
- ○ Yes → Is the electricity supplied by
  - ○ A public utility?
  - ○ A private generator? → What is the source of energy?
    - ○ Diesel oil
    - ○ Solar
    - ○ Other

H20. What are the costs of utilities and fuels for your living quarters?

a. Electricity

$ _____ .00 *Average monthly cost* OR
- ○ Included in rent or no charge
- ○ Electricity not used

b. Water

$ _____ .00 *Average monthly cost* OR
- ○ Included in rent or no charge

c. Oil, gas, kerosene, wood, etc.

$ _____ .00 *Yearly cost* OR
- ○ Included in rent or no charge
- ○ These fuels not used

H21. Do you have a telephone in your living quarters?

- ○ Yes
- ○ No

H22. Do you have a radio?

- ○ Yes
- ○ No

H23. Do you have a television set?

- ○ Yes
- ○ No

H24. Do you have air-conditioning?

- ○ Yes, a central air-conditioning system
- ○ Yes, 1 individual room unit
- ○ Yes, 2 or more individual room units
- ○ No

H25. How many automobiles, vans or light trucks are kept at home for use by members of your household? *(Include company-owned vehicles kept at home.)*

- ○ None
- ○ 1 automobile or truck or van, etc.
- ○ 2 automobiles or trucks or vans, etc.
- ○ 3 or more automobiles or trucks or vans, etc.

H26. Are your living quarters —

- ○ Owned or being bought by you or by someone else in this household?
- ○ Rented for cash rent?
- ○ Occupied without payment of cash rent?

H27. *Ask of persons who rent their living quarters –*
What is the monthly rent? *If rent is not paid by the month, see the Questionnaire Reference Book on how to figure a monthly rent.*

- ○ Less than $50
- ○ $50 to $59
- ○ $60 to $69
- ○ $70 to $79
- ○ $80 to $89
- ○ $90 to $99
- ○ $100 to $109
- ○ $110 to $119
- ○ $120 to $129
- ○ $130 to $139
- ○ $140 to $149
- ○ $150 to $159
- ○ $160 to $169
- ○ $170 to $179
- ○ $180 to $189
- ○ $190 to $199
- ○ $200 to $224
- ○ $225 to $249
- ○ $250 to $274
- ○ $275 to $299
- ○ $300 to $349
- ○ $350 to $399
- ○ $400 to $499
- ○ $500 or more

H28. *If this is a one-family house* – Is any part of the property used as a commercial establishment or medical office?

- ○ Yes
- ○ No

ASK H29a IN AMERICAN SAMOA, COMMONWEALTH OF THE NORTHERN MARIANA ISLANDS, AND THE TRUST TERRITORY OF THE PACIFIC ISLANDS ONLY.

H29a. *If this is a one-family house (or condominium unit) which is owned or is being bought –*
What is the value of this house, that is, how much do you think it would sell for if it were for sale? *Do not include the value of the land.*

Do not ask this question if this is a house with a commercial establishment or medical office on the property.

- ○ Less than $1,000
- ○ $1,000 to $1,999
- ○ $2,000 to $2,999
- ○ $3,000 to $3,999
- ○ $4,000 to $4,999
- ○ $5,000 to $5,999
- ○ $6,000 to $7,499
- ○ $7,500 to $9,999
- ○ $10,000 to $12,499
- ○ $12,500 to $14,999
- ○ $15,000 to $17,499
- ○ $17,500 to $19,999
- ○ $20,000 to $22,499
- ○ $22,500 to $24,999
- ○ $25,000 to $27,499
- ○ $27,500 to $29,999
- ○ $30,000 to $32,499
- ○ $32,500 to $34,999
- ○ $35,000 to $37,499
- ○ $37,500 to $39,999
- ○ $40,000 to $42,499
- ○ $42,500 to $44,999
- ○ $45,000 to $49,999
- ○ $50,000 or more

ASK H29b IN GUAM ONLY

H29b. *If this is a one-family house (or condominium unit) which is owned or being bought –*

What is the value of this property, that is, how much do you think this property (house and lot or condominium unit) would sell for if it were for sale?

Do not ask this question if this is a house with a commercial establishment or medical office on the property

- ○ Less than $10,000
- ○ $10,000 to $14,999
- ○ $15,000 to $17,499
- ○ $17,500 to $19,999
- ○ $20,000 to $22,499
- ○ $22,500 to $24,999
- ○ $25,000 to $27,499
- ○ $27,500 to $29,999
- ○ $30,000 to $34,999
- ○ $35,000 to $39,999
- ○ $40,000 to $44,999
- ○ $45,000 to $49,999
- ○ $50,000 to $54,999
- ○ $55,000 to $59,999
- ○ $60,000 to $64,999
- ○ $65,000 to $69,999
- ○ $70,000 to $74,999
- ○ $75,000 to $79,999
- ○ $80,000 to $89,999
- ○ $90,000 to $99,999
- ○ $100,000 to $124,999
- ○ $125,000 to $149,999
- ○ $150,000 to $199,999
- ○ $200,000 or more

CENSUS USE

H29a.
H29b.
H29c.
W.
X.
Y.

E–6

ASK H30 THROUGH H35 IN GUAM AND COMMONWEALTH OF THE NORTHERN MARIANA ISLANDS ONLY

Please ask H30 – H35 if this is a one family house which is owned or is being bought, unless this is –

- A mobile home or trailer .....
- A condominium unit .....
- A house with a commercial establishment or medical office on the property .....

If any of these, or if you rent your unit or this is a multi-family structure, Skip H30 to H35 and turn to page 6.

H30. What were the real estate taxes on this property last year?

$ _____.00 OR ○ None

H31. What is the annual premium for fire and hazard insurance on this property?

$ _____.00 OR ○ None

H32. Is there a mortgage on this property?

○ Yes
○ No — *Turn to page 6.*

H33. How much is your total regular monthly payment to the lender?
Also include payments to lenders holding second or junior mortgages on this property.

$ _____.00 .OR ○ No regular payment required — *Turn to page 6.*

H34. Does your regular monthly payment *(amount entered in H33)* include payments for real estate taxes on this property?

○ Yes, taxes included in payment
○ No, taxes paid separately or taxes not required.

H35. Does your regular monthly payment include payments *(amount entered in H33)* for fire and hazard insurance on this property?

○ Yes, insurance included in payment
○ No, insurance paid separately or no insurance

ASK H36 AND H37 IN THE TRUST TERRITORY OF THE PACIFIC ISLANDS ONLY

H36. Does any member of the household own a boat of less than 25 feet in length?

○ Yes
○ No

H37. How many motorcycles, mopeds, or motor scooters are kept at home for use by members of your household?

○ None
○ 1
○ 2 or more

Please turn to page 6 →

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GQ.	H30.	H31.	H33.
0 0	0 0 0 0	0 0 0	0 0 0 0
1 1	1 1 1 1	1 1 1	1 1 1 1
2 2	2 2 2 2	2 2 2	2 2 2 2
3 3	3 3 3 3	3 3 3	3 3 3 3
4 4	4 4 4 4	4 4 4	4 4 4 4
5 5	5 5 5 5	5 5 5	5 5 5 5
6 6	6 6 6 6	6 6 6	6 6 6 6
7	7 7 7 7	7 7 7	7 7 7 7
8	8 8 8 8	8 8 8	8 8 8 8
9	9 9 9 9	9 9 9	9 9 9 9

ANSWER THESE QUESTIONS FOR

Name of Person 1 on page 2

Last name | First name | Middle initial

10a. Where was . . . born?
If born in a hospital, give residence of the mother, not location of the hospital. Fill one circle.

- O American Samoa
- O Guam
- O Kosrae
- O Marshall Islands
- O Northern Marianas
- O Palau
- O Ponape
- O Tonga
- O Truk
- O Western Samoa
- O Yap
- O United States
- O Elsewhere

b. Specify the name of the major island or atoll, U.S. State or foreign country.

11. *ASK IT IN GUAM ONLY*
Ask only for persons born outside Guam or the United States:

Is . . . a

- O Naturalized U.S. citizen
- O Permanent U.S. alien *(alien)*
- O Temporary U.S. alien *(work permit)*
- O Other U.S. citizen

12. *If . . . was born outside this territory –*
When did . . . come to this territory to stay?

- O 1979 or 1980
- O 1977 or 1978
- O 1975 or 1976
- O 1973 or 1974
- O 1971 or 1972
- O 1970
- O 1960 to 1969
- O 1950 to 1959
- O Before 1950

13. Where was . . .'s father born?

- O American Samoa
- O Guam
- O Kosrae
- O Marshall Islands
- O Northern Marianas
- O Palau
- O Ponape
- O Tonga
- O Truk
- O Western Samoa
- O Yap
- O United States
- O Elsewhere – *Specify*

14. Where was . . .'s mother born?

- O American Samoa
- O Guam
- O Kosrae
- O Marshall Islands
- O Northern Marianas
- O Palau
- O Ponape
- O Tonga
- O Truk
- O Western Samoa
- O Yap
- O United States
- O Elsewhere – *Specify*

15a. Did . . . live in this house five years ago (April 1, 1975)?

- O Born April 1975 or later – *Skip to 18a*
- O Yes, this house – *Skip to 16a*
- O No, different house

b. Where did . . . live five years ago (April 1, 1975)?

- O American Samoa
- O Guam
- O Kosrae
- O Marshall Islands
- O Northern Marianas
- O Palau
- O Ponape
- O Tonga
- O Truk
- O Western Samoa
- O Yap
- O United States
- O Elsewhere

15a. Specify the name of the village and the major island or atoll, U.S. State or foreign country where . . . lived five years ago.

(1) the village name _____

(2) the major island or atoll, U.S. State, or foreign country _____

16a. During the last 10 years did . . . live in the United States (including Hawaii) at any time for 6 or more consecutive months?

- O Yes
- O No – *Skip to 17*

b. When did . . . come or return to this territory the last time?

- O 1979 or 1980
- O 1978
- O 1977
- O 1976
- O 1975
- O 1974
- O 1973
- O 1972
- O 1970 or 1971

c. How long did . . . live in the United States the last time?

- O 6 months up to 1 year
- O 1 to 2 years
- O 3 to 4 years
- O 5 years
- O 6 to 9 years
- O 10 or more years

d. For the last 6 months that . . . lived in the U.S., was . . . –

	Yes	No
(1) Working at a job or business (*Full time or part time*)?	O	O
(2) In the U.S. Armed Forces?	O	O
(3) Attending school or college?	O	O

17. Does . . . know how to read and write (in any language)?

- O Yes
- O No

18a. Does . . . speak a language other than English at home?

- O Yes
- O No, only speaks English – *Skip to 19a*

b. What language other than English is spoken at home?

_____
(For example – Chamorro, Samoan, etc.)

c. Does . . . speak this language *(from 18b)* at home more frequently than English?

- O Yes, more frequently than English
- O Both equally often
- O No, less frequently than English
- O Doesn't speak English

19a. When was . . . born?

- O Born before April 1965 – *Skip to 20a*
- O Born April 1965 or later – *Go to 19b*

19b. Is . . .'s mother in the household?

- O Yes – Person no. of . . .'s mother from page 2 or 3 _____
- O No – *Ask:* Is . . .'s mother living?
  - O Yes
  - O No

If 19b is answered, turn to next page for next person.

20a. Has . . . completed the requirements for a vocational training program at a trade school, business school, hospital or some other kind of school for occupational training?
(Do not include academic college courses.)

- O Yes
- O No – *Skip to 21a*

b. At what kind of school was the training received?

- O Business school, trade school, or 2-year college
- O High school vocational program
- O Training program at place of work
- O Other school – *Specify*

21a. *If this person is a female –*
How many babies has she ever had, not including stillbirths?
Do not count her stepchildren or children she has adopted

	1	2	3	4	5
	O	O	O	O	O
	6	7	8	9	10
	O	O	O	O	O
	11	12	13	14	15 or more
O None – *Skip to 22a*	O	O	O	O	O

b. How many of these children are still living?

None	1	2	3	4	5	6	7	8	9	10
O	O	O	O	O	O	O	O	O	O	O

11	12	13	14	15 or more
O	O	O	O	O

c. Has . . . had any babies born alive since April 1, 1979?

- O Yes
- O No

22a. Did . . . work at any time last week?
Count part-time work, or helping without pay in a family business or farm. Also count active duty in the U.S. Armed Forces. Subsistence activity includes fishing, handicrafts, etc. not for commercial purposes.

- O Yes, worked full time or part time at a job or business; did no subsistence activity.
- O Yes, worked full time or part time at a job or business and did subsistence activity.
- O Yes, did subsistence activity only. – *Skip to 23*
- O No *(Fill this circle if this person did not work or did only own housework, or volunteer work.)* – *Skip to 23*

b. How many hours did . . . work last week (at all jobs), excluding subsistence activity?
Subtract any time off; add overtime or extra hours worked.

_____ Hours – *Skip to 26*

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Person No.	10b.	13.	14.	15c.	18b.	19b.	22b.	2.
1	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0	0 0	0 0 0
2	1 1 1	1 1 1	1 1 1	1 1 1	1 1 1	1 1	1 1	1 1 1
3	2 2 2	2 2 2	2 2 2	2 2 2	2 2 2	2 2	2 2	2 2 2
4	3 3 3	3 3 3	3 3 3	3 3 3	3 3 3	3 3	3 3	3 3 3
5	4 4 4	4 4 4	4 4 4	4 4 4	4 4 4	4 4	4 4	4 4 4
6	5 5 5	5 5 5	5 5 5	5 5 5	5 5 5	5	5 5	5 5 5
7	6 6 6	6 6 6	6 6 6	6 6 6	6 6 6	6	6 6	6 6 6
8	7 7 7	7 7 7	7 7 7	7 7 7	7 7 7	7	7 7	7 7 7
9	8 8 8	8 8 8	8 8 8	8 8 8	8 8 8		8 8	8 8 8
10	9 9 9	9 9 9	9 9 9	9 9 9	9 9 9		9 9	9 9 9

23. Was . . . temporarily absent or on layoff from a job or business last week?

- ○ Yes, on layoff
- ○ Yes, on vacation, temporary illness, labor dispute, etc.
- ○ No

24a. Has . . . been looking for work to earn money during the last 4 weeks?

- ○ Yes
- ○ No — *Skip to 25*

b. Could . . . have taken a job last week?

- ○ No, already has a job
- ○ No, temporarily ill
- ○ No, other reasons *(in school, etc.)*
- ○ Yes, could have taken a job

25. When did . . . last work, even for a few days?

- ○ 1980
- ○ 1979
- ○ 1978
- ○ 1975 to 1977
- ○ 1970 to 1974
- ○ 1969 or earlier
- ○ Never worked

} *Skip to 29f*

26—28. Current or most recent job activity.
Describe the chief job activity, business or subsistence activity at which . . . worked the most hours last week (If . . . did not work last week, describe the last job or business since 1975). If . . . had more than one job or had a job to earn money and did subsistence activity, describe the one at which . . . worked the most hours.

26. Industry

a. For whom did . . . work? *If now on active duty in the U.S. Armed Forces, print "AF" and skip to question 28a.*

(Name of company, business, organization, or other employer)

b. What kind of business or industry was this?
Describe activity at location where employed.

(For example: Hospital, fish cannery, basket weaving)

c. Is this mainly — *(Fill one circle)*

- ○ Manufacturing
- ○ Wholesale trade
- ○ Retail trade
- ○ Construction
- ○ Other — (agriculture, service, etc.)

27. Occupation

a. What kind of work to earn money or subsistence activity was . . . doing?

(For example: Registered nurse, industrial machinery mechanic, basket weaver)

b. What were . . .'s most important activities or duties?

(For example: Patient care, repair machines in factory, weave baskets)

28. Was . . . — *(Fill one circle)*

- ○ Employee of private company, business or individual for wages, salary, or commissions
- ○ U.S. government employee
- ○ Local government employee *(Territorial, etc.)*
- ○ Self-employed in own business, professional practice, or farm —
  - ○ Own business not incorporated
  - ○ Own business incorporated
- ○ Working without pay in family business or farm
- ○ Doing subsistence activity

29a. Last year (1979), did . . . work, even for a few days, at a paid job or in a business or farm?

- ○ Yes — *Skip to 29c*
- ○ No — *Go to 29b*

CENSUS USE

JIC

28.
A B C
D E F
G H J
K L M

27.
N P Q
R S T
U V W
X Y Z

29b. In 1979, did . . . do subsistence activity such as growing/gathering food, fishing, copra, or handicrafts not for commercial purposes?

- ○ Yes
- ○ No — *Skip to 29f*

c. Did . . . earn any cash income from this work in 1979?

- ○ Yes
- ○ No

d. How many weeks did . . . work in 1979?
Count paid vacation, paid sick leave, and military service.

_____ Weeks

e. During the weeks worked in 1979, how many hours did . . . usually work each week?

_____ Hours

f. Of the weeks not worked or in which only subsistence activity was done in 1979, how many weeks was . . . looking for work to earn money or on layoff from a job?

_____ Weeks

30. Income in 1979 —
Fill circles and print dollar amounts. If net income was a loss, print "Loss" above the dollar amount. If exact amount is not known, ask for best estimate.

During 1979 did . . . receive any income from the following sources?

If "Yes" to any of the sources below — How much did . . . receive for the entire year?

a. Wages, salary, commissions, bonuses, or tips from all jobs — *Report gross amount before any deductions for retirement funds, etc.*

- ○ Yes → $ _____ .00 *(Annual amount—Dollars)*
- ○ No

b. Own nonfarm business, commercial enterprise, partnership, or professional practice — *Report net income after business expenses.*

- ○ Yes → $ _____ .00 *(Annual amount—Dollars)*
- ○ No

c. Income from individual activity such as farming, fishing, etc. *Report net income after operating expenses. Include earnings as a tenant farmer or sharecropper.*

- ○ Yes → $ _____ .00 *(Annual amount—Dollars)*
- ○ No

d. Interest, dividends, royalties, or net rental income — *Report even small amounts credited to an account.*

- ○ Yes → $ _____ .00 *(Annual amount—Dollars)*
- ○ No

e. Social Security or Railroad Retirement —

- ○ Yes → $ _____ .00 *(Annual amount—Dollars)*
- ○ No

f. Public assistance or public welfare payments —

- ○ Yes → $ _____ .00 *(Annual amount—Dollars)*
- ○ No

g. Unemployment compensation, veterans' payments, pensions, alimony or child support, or any other sources of income received regularly, including money transfers from other relatives outside the household — *Exclude lump sum payments such as money from an inheritance or the sale of a home.*

- ○ Yes → $ _____ .00 *(Annual amount—Dollars)*
- ○ No

31. What was . . .'s total income in 1979?
Add entries in questions 30a through g; subtract losses. If total amount was a loss, print "Loss" above amount.

$ _____ .00 *(Annual amount—Dollars)*

OR ○ None

CENSUS USE ONLY

29d. 29e. 29f.
30a. 30b.
30c. 30d.
30e. 30f.
30g. 31.

➧ *Please turn to the next page and answer the questions for Person 2 on page 2*

E-8

Form B2-A1(G)
(12-30-82)

U.S. DEPARTMENT OF COMMERCE
BUREAU OF THE CENSUS

NOTICE — Response to this inquiry is required by law (title 13, U.S. Code). By the same law YOUR REPORT TO THE CENSUS BUREAU IS CONFIDENTIAL. It may be seen only by sworn Census employees and may be used only for statistical purposes. Your report CANNOT be used for purposes of taxation, investigation, or regulation.

A1

1982 CENSUS OF AGRICULTURE
GUAM

FARM SERIAL NUMBER
From A2, column (6)

Section 1 OPERATOR

1. What is your *(the operator's)* name?

2. What is your *(the operator's)* mailing address? *(Give address where correspondence is received.)*

Full name *(First name, middle initial, last name)*

Complete mailing address

Section 2 LAND IN AGRICULTURE

	None	Acres	Tenths
1. How many acres do you own?	☐	041	/10
2. How many acres do you rent from others?	☐	042	/10
3. For how many acres do you have a government land permit?	☐	043	/10
4. How many acres do you occupy without a land permit?	☐	044	/10
5. How many acres are furnished to you, in connection with your living quarters, by the government?	☐	045	/10
6. How many acres do you rent to others? *(Do not include land used by U.S. military services.)*	☐	046	/10
7. TOTAL ACRES IN THIS PLACE (ADD the entries in items 1, 2, 3, 4, and 5, then SUBTRACT the entry in item 6.) →		047	/10

8. Is the farm located on a hard surface (all weather) road? 048 ☐ 1 Yes ☐ 2 No — About how many miles is it to the nearest hard surface (all weather) road?

Miles	Tenths
049	/10

9. How many unpaid and paid farm hands (including the operator and his family) worked on this place in 1982? 055 _____ Total farm hands

	150 days or more?	25 to 149 days?	Less than 25 days?
a. Of the unpaid farm hands (including the operator and unpaid family workers), how many worked —	056	057	058
b. Of the paid farm hands (hired workers and paid members of operator's family), how many worked —	059	060	061

10. Is this holding producing mainly for home consumption or sale? 062
☐ 1 Home consumption — *Go to section 3*
☐ 2 Sale — *Ask item 11*

11. If producing mainly for sale, is it one of the following? 063
☐ 1 Vegetable holding
☐ 2 Field crop holding
☐ 3 Fruit and nut holding
☐ 4 Dairy holding
☐ 5 Livestock holding
☐ 6 Poultry holding
☐ 7 Mixed holding
☐ 8 Other — *Specify* _____

Section 3 CROPS HARVESTED IN 1982

• Were any of these VEGETABLES AND FIELD CROPS harvested in 1982?	None	How many acres were harvested in 1982? (a) Acres	Tenths	How many POUNDS were harvested in 1982? (b)	How many POUNDS were sold in 1982? (c)	What was the value of sales in 1982? (d)
1. Bittermelons	☐	064	/10	065	066	067
2. Cantaloupes	☐	068	/10	069	070	071
3. Cassava (tapioca)	☐	072	/10	073	074	075
4. Gabo	☐	076	/10	077	078	079
5. Muskmelons and pepinos	☐	080	/10	081	082	083

Section 3 **CROPS HARVESTED IN 1982 — Continued**

- **Were any of these VEGETABLES AND FIELD CROPS harvested in 1982?**

	None	How many acres were harvested in 1982? (a) Acres	Tenths	How many POUNDS were harvested in 1982? (b)	How many POUNDS were sold in 1982? (c)	What was the value of sales in 1982? (d)
6. Sweetpotatoes	☐	084	/10	085	086	087
7. Taro	☐	088	/10	089	090	091
8. Watermelons	☐	092	/10	093	094	095
9. Yams	☐	096	/10	097	098	099
10. Chinese cabbage	☐	100	/10	101	102	103
11. Corn	☐	104	/10	105	106	107
12. Cucumbers	☐	108	/10	109	110	111
13. Eggplant	☐	112	/10	113	114	115
14. Green beans	☐	116	/10	117	118	119
15. Green onions	☐	120	/10	121	122	123
16. Head cabbage	☐	124	/10	125	126	127
17. Peppers	☐	128	/10	129	130	131
18. Pumpkins and squash	☐	132	/10	133	134	135
19. Radishes	☐	136	/10	137	138	139
20. Tomatoes	☐	140	/10	141	142	143
21. Other vegetables and field crops — *Specify*	☐	144	/10	145	146	147

- **FRUITS AND NUTS**

22. **Were there any fruit and nut trees or plants on this place or were any harvested in 1982?** 050 1 ☐ Yes 2 ☐ No — *Skip to item 41*

23. **How much land is in bearing and nonbearing fruit trees and plants?** Acres 051 Tenths /10

	None	How many trees or plants are not of bearing age? (a)	How many trees or plants are of bearing age? (b)	How many pounds were harvested in 1982? (c)	How many pounds were sold in 1982? (d)	What was the value of sales in 1982? (e)
24. Avocados	☐	148	149	150	151	152
25. Bananas	☐	153	154	155	156	157
26. Betelnuts	☐	158	159	160	161	162
27. Breadfruits	☐	163	164	165	166	167
28. Coconuts	☐	168	169	170	171	172
29. Grapefruits	☐	173	174	175	176	177
30. Guavas	☐	178	179	180	181	182
31. Lemons-Limes	☐	183	184	185	186	187
32. Mangoes	☐	188	189	190	191	192
33. Oranges	☐	193	194	195	196	197
34. Papayas	☐	198	199	200	201	202
35. Pineapples	☐	203	204	205	206	207
36. Soursops	☐	208	209	210	211	212
37. Star Fruits	☐	213	214	215	216	217
38. Sweetsops	☐	218	219	220	221	222
39. Tangerines	☐	223	224	225	226	227
40. Other fruits, nuts, and tree crops — *Specify*	☐	228	229	230	231	232

	None	Number of plants on the place (a)	Number of plants sold (b)	What was the value of sales in 1982? (c)
41. Nursery and Ornamental plants, flowering trees and plants, shrubs, etc.; on the place in the last 12 months	☐	233	234	235

FORM 82-A1(G) (12-30-82)

Section 4 LAND USE

Of the total acres on this place *(Section 2, item 7)* —

	None	Acres	Tenths
1. How many acres of land are in crops?	☐	236	/10
2. How much cropland is used for pasture?	☐	238	/10
3. How much cropland is not used for crops or pasture?	☐	240	/10
4. How much pastureland is used for pasture or grazing?	☐	243	/10
5. How much pastureland is not used for pasture or grazing?	☐	244	/10
6. How many acres are in other land?	☐	246	/10
7. TOTAL LAND *(Add entries in items 1 through 6. The total should be equal to the entry in section 2, item 7.)* →		248	/10

Section 5 LIVESTOCK AND POULTRY

Do you or anyone else have any of the following livestock and poultry on this place or were any sold from this place in 1982?

	None	How many are on this place today? (a)	How many were sold in 1982? (b)	What was the value of sales in 1982? (c)
1. Carabaos of all ages	☐	250	251	252
2. Total cattle and calves of all ages *(Must equal sum of a and b below.)*	☐	253	254	255
a. Milk cows	☐	256	257	258
b. All other cattle and calves	☐	259	260	261
3. Hogs and pigs of all ages	☐	262	263	264
4. Goats and kids of all ages	☐	265	266	267
5. Horses and colts of all ages	☐	268	269	270
6. Chicken hens 4 months old and over *(Must equal sum of a and b below.)*	☐	271	272	273
a. Commercial layers	☐	274	275	276
b. Other chicken hens	☐	277	278	279
7. Chickens less than 4 months old	☐	280	281	282
8. Roosters and pullets	☐	283	284	285
9. Other poultry		286	287	288
a. Ducks	☐	289	290	291
b. Geese	☐	292	293	294
c. Pigeons	☐	295	296	297
d. Other — *Specify* _____	☐	298	299	300

	None	Number sold in 1982 (a)	What was the value of sales in 1982? (b)
10. How many dozens of chicken eggs were sold during 1982?	☐	301 Dozens	302
11. How many quarts of milk were sold during 1982?	☐	303 Quarts	304

Section 6 FISHERY

	None	Total pounds caught (a)	Total pounds sold (b)	Value of sales in 1982 (c)
1. How many pounds of fish were caught during 1982?	☐	305	306	307

FORM 82-A11(C) (12-30-82)

Section 7 SELECTED EXPENDITURES IN 1982

How much did you spend for each of the following in 1982?

	None	Dollars only
1. Machine hire and customwork	☐	309
2. Wages and salaries paid to employees or hired farm workers *(Do not include housework or contract construction work. Include cash payments only.)*	☐	310
3. Feed purchased for livestock and poultry *(Include cost of grain, feed, concentrates, and roughages; also amount paid for grinding and mixing feed.)*	☐	311
4. Insecticides, fungicides, and herbicides	☐	312
5. Fertilizers and manure purchased	☐	313
6. Livestock and poultry purchased	☐	314

Section 8 EQUIPMENT AND FACILITIES USED ON THE PLACE IN 1982

1. How many of the following are on this place? *(Include all specified equipment on this place today, regardless of ownership, provided it is in operating condition.)*

	None	Number
a. Tractor (of all kinds)	☐	315
b. Motortrucks	☐	316
c. Automobiles	☐	317

2. Do you have the following on this place?

a. Electricity 318 — 1 ☐ Yes 2 ☐ No

b. Piped running water 319 — 1 ☐ Yes 2 ☐ No

Section 9 OPERATOR CHARACTERISTICS

The following questions are about the FARM OPERATOR.

1. Do you live on this place? 320 — 1 ☐ Yes 2 ☐ No

2. In what year did you begin to operate this place? 321 _____ Year

3. How old were you on your last birthday? 322 _____ Years old

4. What is your main occupation? 323 — 1 ☐ Agricultural 2 ☐ Non-agricultural

5. OFF FARM WORK — How many days did the operator work 4 hours or more off this place in 1982? *Include work at a nonfarm job, business, or on someone else's farm. Exclude exchange farm work* 324

1 ☐ None 4 ☐ 100–149 days
2 ☐ 1–49 days 5 ☐ 150–199 days
3 ☐ 50–99 days 6 ☐ 200 days or more

Section 10 ENUMERATOR'S RECORD (To be filled by the Census enumerator)

1. Who furnished the information in this report? 325

1 ☐ Operator
2 ☐ Landlord
3 ☐ Hired laborer
4 ☐ Wife or member of the operator's family
5 ☐ Other — *Specify* _____

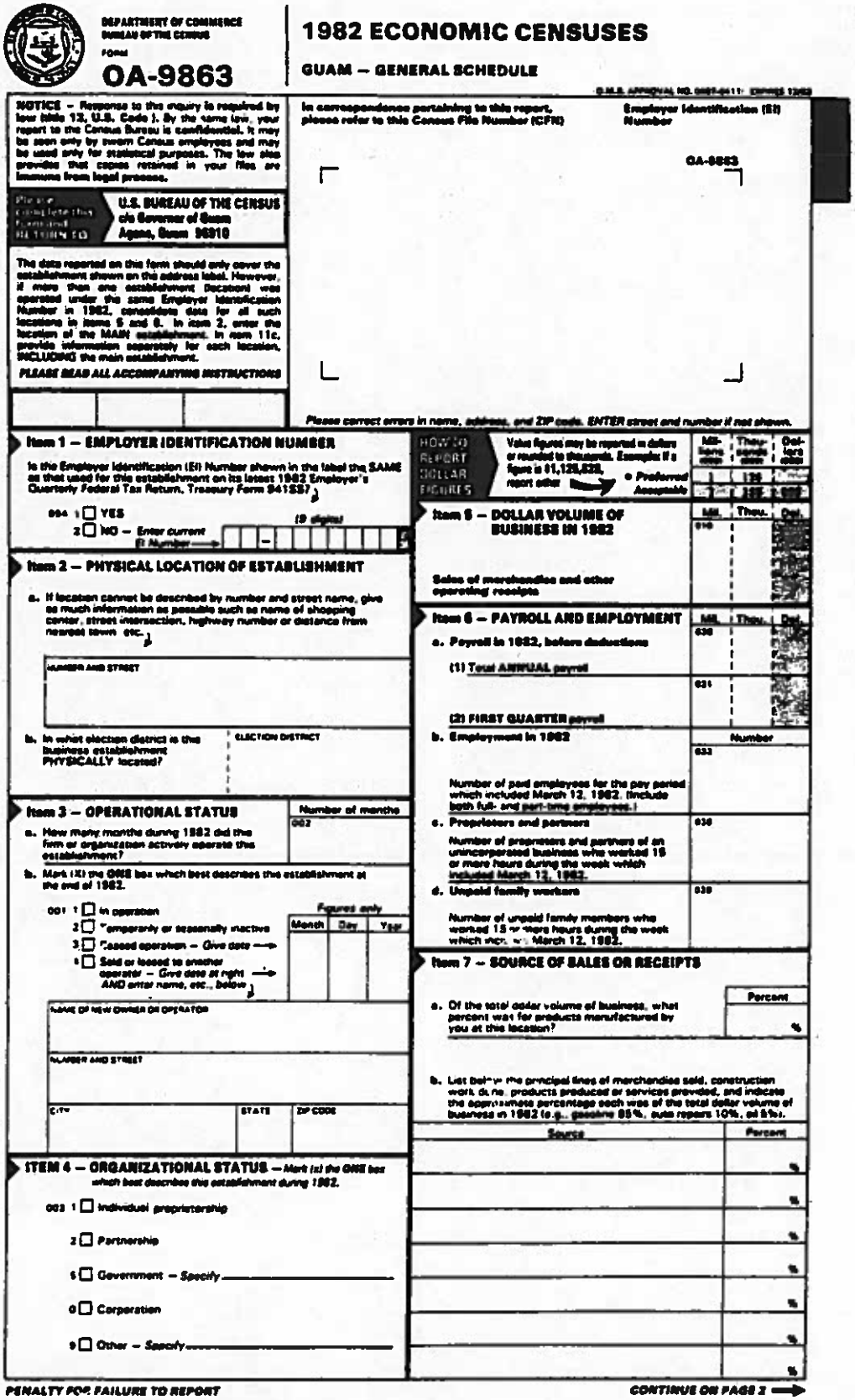
2. Remarks *(Make any remarks needed in regard to the place, the owner or operator, the crops cultivated, or the livestock on this place.)*

3. Residence of operator	a. Election District	b. Village
4. Location of land	a. Election District	b. ED number
5. Certified by	Enumerator's signature	Date
6. Checked by	Supervisor's signature	Date

FORM B2-A1(C) (12-30-82)

Page 4

APPENDIX C.
Report Forms



DEPARTMENT OF COMMERCE
BUREAU OF THE CENSUS
FORM
OA-9863

1982 ECONOMIC CENSUSES

GUAM — GENERAL SCHEDULE

O.M.B. APPROVAL NO. 0607-0611; EXPIRES 12/83

NOTICE — Response to this enquiry is required by law (title 13, U.S. Code). By the same law, your report to the Census Bureau is confidential. It may be seen only by sworn Census employees and may be used only for statistical purposes. The law also provides that copies retained in your files are immune from legal process.

Please complete this form and RETURN TO: **U.S. BUREAU OF THE CENSUS c/o Governor of Guam Agana, Guam 96910**

The data reported on this form should only cover the establishment shown on the address label. However, if more than one establishment (location) was operated under the same Employer Identification Number in 1982, consolidate data for all such locations in items 5 and 6. In item 2, enter the location of the MAIN establishment. In item 11c, provide information separately for each location, INCLUDING the main establishment.

PLEASE READ ALL ACCOMPANYING INSTRUCTIONS

In correspondence pertaining to this report, please refer to this Census File Number (CFN)

Employer Identification (EI) Number

OA-9863

Please correct errors in name, address, and ZIP code. ENTER street and number if not shown.

Item 1 — EMPLOYER IDENTIFICATION NUMBER

Is the Employer Identification (EI) Number shown in the label the SAME as that used for this establishment on its latest 1982 Employer's Quarterly Federal Tax Return, Treasury Form 941E/941?

004 1 ☐ YES
2 ☐ NO — *Enter current EI Number* → (9 digits)

Item 2 — PHYSICAL LOCATION OF ESTABLISHMENT

a. If location cannot be described by number and street name, give as much information as possible such as name of shopping center, street intersection, highway number or distance from nearest town etc.

NUMBER AND STREET

b. In what election district is the business establishment PHYSICALLY located?

ELECTION DISTRICT

Item 3 — OPERATIONAL STATUS

a. How many months during 1982 did the firm or organization actively operate this establishment?

Number of months
002

b. Mark (X) the ONE box which best describes the establishment at the end of 1982.

001 1 ☐ In operation
2 ☐ Temporarily or seasonally inactive
3 ☐ Leased operation — *Give date* →
4 ☐ Sold or leased to another operator — *Give date at right* → *AND enter name, etc., below*

Figures only: Month | Day | Year

NAME OF NEW OWNER OR OPERATOR

NUMBER AND STREET

CITY | STATE | ZIP CODE

ITEM 4 — ORGANIZATIONAL STATUS — *Mark (x) the ONE box which best describes the establishment during 1982.*

003 1 ☐ Individual proprietorship
2 ☐ Partnership
5 ☐ Government — *Specify* _____
6 ☐ Corporation
9 ☐ Other — *Specify* _____

HOW TO REPORT DOLLAR FIGURES — Value figures may be reported as dollars or rounded to thousands. Example: If a figure is $1,125,822, report either → (Preferred / Acceptable)

	Mil-lions	Thou-sands	Dol-lars
Preferred	1	126	
Acceptable	1	126	822

Item 5 — DOLLAR VOLUME OF BUSINESS IN 1982

Sales of merchandise and other operating receipts

	Mil.	Thou.	Dol.
010			

Item 6 — PAYROLL AND EMPLOYMENT

a. Payroll in 1982, before deductions

	Mil.	Thou.	Dol.
(1) Total ANNUAL payroll — 030			
(2) FIRST QUARTER payroll — 031			

b. Employment in 1982

Number of paid employees for the pay period which included March 12, 1982. (Include both full- and part-time employees.) — 032 — Number

c. Proprietors and partners

Number of proprietors and partners of an unincorporated business who worked 15 or more hours during the week which included March 12, 1982. — 034

d. Unpaid family workers

Number of unpaid family members who worked 15 or more hours during the week which included March 12, 1982. — 039

Item 7 — SOURCE OF SALES OR RECEIPTS

a. Of the total dollar volume of business, what percent was for products manufactured by you at the location?

Percent
%

b. List below the principal lines of merchandise sold, construction work done, products produced or services provided, and indicate the approximate percentage each was of the total dollar volume of business in 1982 (e.g., gasoline 85%, auto repairs 10%, oil 5%).

Source	Percent
	%
	%
	%
	%
	%
	%
	%

PENALTY FOR FAILURE TO REPORT

CONTINUE ON PAGE 2 →

Item 8 — BUSINESS OR ACTIVITY

Mark (X) the ONE box which best describes the PRINCIPAL activity of this establishment in 1982.

878

- 0100 ☐ AGRICULTURAL PRODUCTION OR SERVICES
- 1000 ☐ MINERALS EXTRACTION

CONSTRUCTION

- 1500 ☐ Building construction — General contractor
- 1800 ☐ Heavy construction contractor
- 1700 ☐ Special trade contractor (electricians, carpenters, painters, etc.)

- 9998 ☐ MANUFACTURING
- 4000 ☐ MOTOR CARRIER

WHOLESALE TRADE

- 5999 ☐ Merchant wholesaler
- 5995 ☐ Agent or broker
- 5998 ☐ Other type of wholesaler — *Specify type*

RETAIL TRADE

- 5531 ☐ Automobile parts store
- 5813 ☐ Bar or tavern
- 5441 ☐ Candy store
- 5611 ☐ Clothing store, men's and boys'
- 5621 ☐ Clothing store, women's ready-to-wear
- 5912 ☐ Drug store (prescriptions filled)
- 5651 ☐ Family clothing store
- 5712 ☐ Furniture store
- 5541 ☐ Gasoline service station
- 5947 ☐ Gift shop
- 5411 ☐ Grocery store
- 5251 ☐ Hardware store
- 5944 ☐ Jewelry store
- 5921 ☐ Liquor store
- 5423 ☐ Meat market
- 5812 ☐ Restaurant
- 5661 ☐ Shoe store
- 5947 ☐ Souvenir shop
- 5431 ☐ Vegetable market
- 5999 ☐ Other kind of retail business — *Specify type*

FINANCE, INSURANCE, AND REAL ESTATE

- 6411 ☐ Insurance agents, brokers, or related services
- 6145 ☐ Licensed small loan lenders
- 6513 ☐ Owner-operator of apartment building(s)
- 6531 ☐ Real estate agent and manager
- 6515 ☐ Residential mobile home site
- 6552 ☐ Subdividers and developers, except cemeteries
- 9998 ☐ Other kind of finance, insurance, or real estate — *Specify type*

SERVICES AND OTHER BUSINESS ACTIVITIES

- 7531 ☐ Automotive body shop
- 7539 ☐ Automotive muffler shop
- 7535 ☐ Automotive paint shop
- 7538 ☐ Automotive repair shop, general
- 7537 ☐ Automotive transmission repair shop
- 7241 ☐ Barber shop
- 7231 ☐ Beauty shop
- 7392 ☐ Business consultant
- 7215 ☐ Coin operated laundries
- 8021 ☐ Dentist's office, including orthodontist
- 7261 ☐ Funeral services
- 8111 ☐ Legal services, including legal aid
- 8011 ☐ Medical doctor's office
- 8811 ☐ Private household (domestic help, e.g., cooks, etc.)
- 7622 ☐ Radio and television repair shop
- 7623 ☐ Refrigeration and air conditioning service
- 7629 ☐ Other electrical and electronic repair shop

- 9998 ☐ OTHER BUSINESS OR ACTIVITY — *Specify type*

Census use only

Item 9 — CLASS OF CUSTOMER

To whom do you sell most of your products or provide your services?

316

- 1 ☐ To the general public (household consumers and individuals)
- 2 ☐ To retail or wholesale establishments
- 3 ☐ To construction contractors
- 4 ☐ To institutional, industrial, commercial, professional, government, and farm users
- 5 ☐ Other customers — *Specify*

Item 10 — If "Manufacturing" is marked in item 8, list the primary materials consumed in producing the manufactured products.

Item 11 — OWNERSHIP, CONTROL, AND LOCATIONS OF OPERATION

Refer to instructions for definitions of ownership and control. If more space is needed, continue in item 12.

a. Is this company owned or controlled by another company?

087 1 ☐ YES → 2 ☐ NO

ENTER OWNING OR CONTROLLING COMPANY NAME, ADDRESS, AND ZIP CODE

EI No. (9 digits)

b. Does this company own or control any other company or companies?

088 1 ☐ YES → 2 ☐ NO

ENTER OWNED OR CONTROLLED COMPANY NAME, ADDRESS, AND ZIP CODE

EI No. (9 digits)

c. How many establishments were operated under the EI Number shown in the address label (or as corrected in item 1) at the end of 1982? → 079 (Number)

If more than one, provide the physical location address and other information indicated below for each establishment. Continue with same format in item 12 (or attach a separate sheet) if necessary.

	NAME, ADDRESS, AND ZIP CODE	1982	Mil.	Thou.	Dol.
1		Sales	081		
	KIND-OF-BUSINESS DESCRIPTION	Annual payroll	082		
		Census use	086		
2	NAME, ADDRESS, AND ZIP CODE	1982	Mil.	Thou.	Dol.
		Sales	081		
	KIND-OF-BUSINESS DESCRIPTION	Annual payroll	082		
		Census use	086		

Item 12 — REMARKS — Please use this space for any explanations that may be essential in understanding your reported data.

Item 13 — CERTIFICATION — This report is substantially accurate and has been prepared in accordance with instructions.

Period covered by this report →	FROM: Mo. / Year	TO: Mo. / Year

Name of person to contact regarding this report — *Print or type*

Telephone →	Area code	Number	Extension

Signature of authorized person | Date

FORM BA-9982

DEPARTMENT OF COMMERCE
BUREAU OF THE CENSUS

FORM
OA-9865

1982 ECONOMIC CENSUSES

GUAM — HOTELS, MOTELS, AND OTHER LODGING PLACES

O.M.B. APPROVAL NO. 41-S0465; EXPIRES 12/83

NOTICE — Response to this inquiry is required by law (Title 13, U.S. Code). By the same law, your report to the Census Bureau is confidential. It may be seen only by sworn Census employees and may be used only for statistical purposes. The law also provides that copies retained on your files are immune from legal process.

U. S. BUREAU OF THE CENSUS
C. O. Governor of Guam
Agana, Guam 96910

In correspondence pertaining to this report, please refer to this Census File Number (CFN)

Employer Identification (EI) Number

OA-9865

The data reported on this form should only cover the establishment shown on the address label. However, if more than one establishment (location) was operated under the same Employer Identification Number in 1982, consolidate data for all such locations in items 5 and 6. In item 2, enter the location of the MAIN establishment. In item 12c, provide information separately for each location, INCLUDING the main establishment.

PLEASE READ ALL ACCOMPANYING INSTRUCTIONS

Please correct errors in name, address, and ZIP code. ENTER street and number if not shown.

Item 1 — EMPLOYER IDENTIFICATION NUMBER

Is the Employer Identification (EI) Number shown in the label the SAME as that used for this establishment on its latest 1982 Employer's Quarterly Federal Tax Return, Treasury Form 941SS?

884 ☐ YES

☐ NO — Enter correct EI Number → (9 digits)

Value figures may be reported in dollars or rounded to thousands.

Example: If a figure is $1,125,630, report either → PREFERRED / Acceptable

	Thousands	Dollars
1	1126	
1	1126	630

Item 5 — DOLLAR VOLUME OF BUSINESS IN 1982

	Thous.	Dol.
010		

TOTAL receipts from services provided and sales of merchandise

Item 2 — PHYSICAL LOCATION OF ESTABLISHMENT

a. PHYSICAL LOCATION

If location cannot be described by street name and number, give as much information as possible such as name of shopping center, street intersection, highway number or distance from nearest town, etc.

NUMBER AND STREET

b. In what election district is this business establishment PHYSICALLY located?

ELECTION DISTRICT

Item 6 — PAYROLL AND EMPLOYMENT

a. Payroll in 1982, before deductions

(1) Total ANNUAL payroll — 024

(2) FIRST QUARTER payroll — 031

b. Employment in 1982 — Number

Number of paid employees for the pay period which included March 12, 1982. (Include both full- and part-time employees.) — 032

c. Proprietors and partners — 034

Number of proprietors and partners of an unincorporated business who worked 15 or more hours during the week which included March 12, 1982.

d. Unpaid family workers — 035

Number of unpaid family members who worked 15 or more hours during the week which included March 12, 1982.

Item 3 — OPERATIONAL STATUS

a. How many months during 1982 did this form or organization actively operate this establishment? — Number of months — 033

b. Mark (X) the ONE box which best describes this establishment at the end of 1982.

034
1 In operation
2 Temporarily or seasonally inactive
3 Ceased operation — Give date → (8 digits only) Month | Day | Year
4 Sold or leased to another operator — Give date or report AND enter name, etc., below →

NAME OF NEW OWNER OR OPERATOR

NUMBER AND STREET

CITY | STATE | ZIP CODE

Item 7 — KIND OF BUSINESS OR ACTIVITY

Mark (X) the ONE box which best describes the activity that accounted for this establishment's MAJOR portion of receipts in 1982.

Hotels, motels, and guest houses

070
- Hotel with 15 or more guestrooms ..... ☐ 701111
- Hotel with less than 15 guestrooms ..... ☐ 701121
- Recreational hotel ..... ☐ 701141
- Motel ..... ☐ 701131
- Tourist court ..... ☐ 701132
- Organization here a lodging house, with rooms open to the general public ..... ☐ 701113

Complete all items

Other lodging places

- Children's camp (except day camp) ..... ☐ 703201
- Sporting or recreational camp — Describe ☐ 703301
- Trailering park and campground for transients ..... ☐ 703301
- Residential mobile home park ..... ☐ 651300
- Children's day camp ..... ☐ 709996

SKIP to item 12

Other kinds of activity or operation

Restaurant, including —

- Hotel with 15 or more guestrooms ..... ☐ 701114
- Motel with 15 or more guestrooms ..... ☐ 701133

Complete all items

- Less than 15 guestrooms (or none) ..... ☐ 581200
- Other kind of activity — Describe ☐ 0000

SKIP to item 12

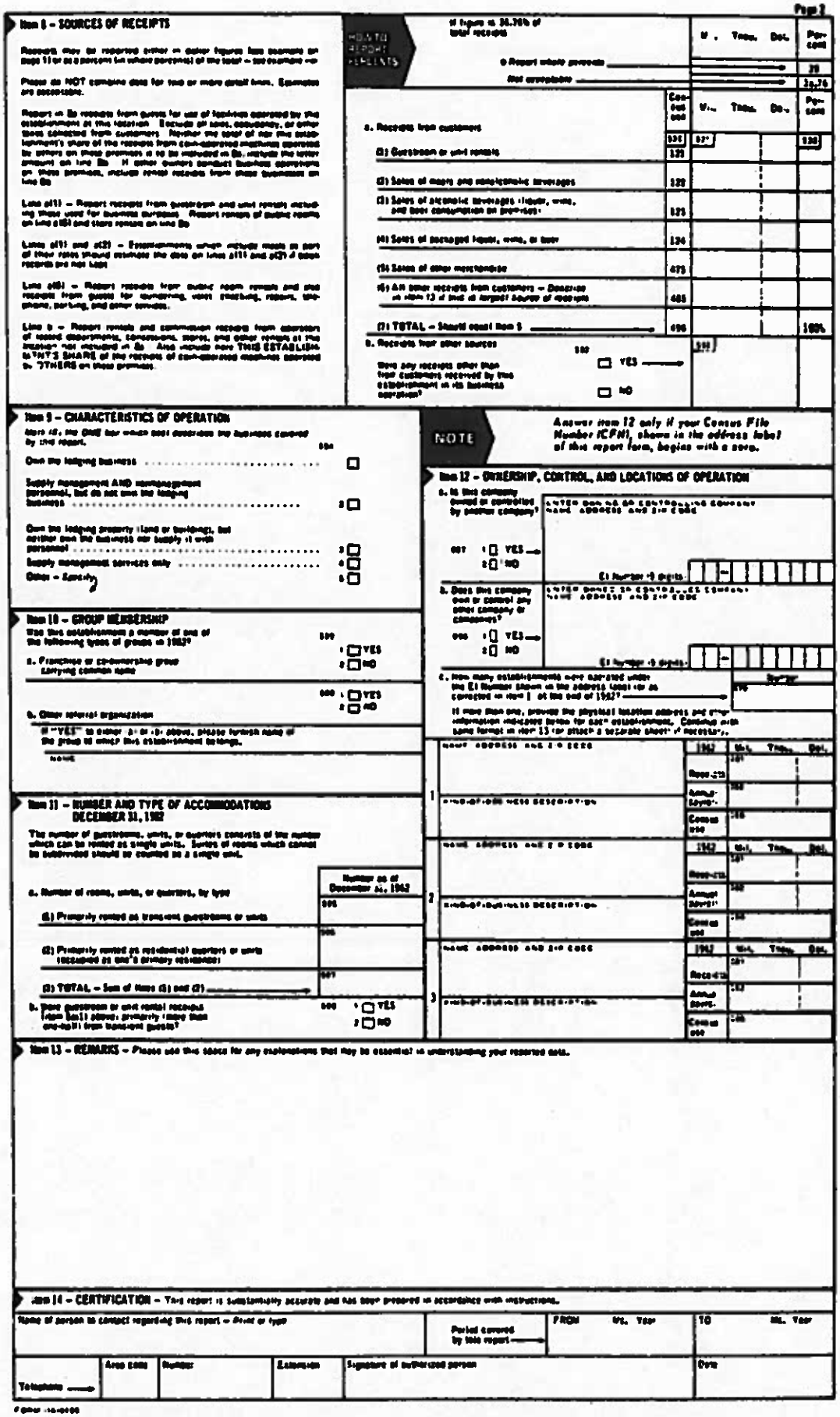
Item 4 — ORGANIZATIONAL STATUS

Mark (X) the ONE box which best describes this establishment during 1982.

883
1 ☐ Individual proprietorship
2 ☐ Partnership
3 ☐ Cooperative association
4 ☐ Government — Specify
5 ☐ Corporation (Do not mark if any form of cooperative association)
6 ☐ Other — Specify

PENALTY FOR FAILURE TO REPORT

CONTINUE ON PAGE 2 →



Item 8 – SOURCES OF RECEIPTS

Receipts may be reported either in dollar figures (see example on page 1) or as a percent (to whose percents of the total – see example on page 1).

Please do NOT complete data for two or more detail items. Estimates are acceptable.

Report on 8a receipts from guests for use of facilities operated by the establishment on the location. Exclude all sales, occupancy, or other taxes collected from customers. Report only that portion of the establishment's share of the receipts from concessionaire operations operated by others on these premises as to be included on 8a; exclude the latter amounts on line 8b. If other owners conduct business operations on these premises, include rental receipts from these businesses on line 8a.

Lines a(1) – Report receipts from guestroom and unit rentals including those used for business purposes. Report receipts of meeting rooms on line a(5) and store rentals on line 8b.

Lines a(1) and a(2) – Establishments which include meals as part of their rates should estimate the data on lines a(1) and a(2) if room records are not kept.

Line a(4) – Report receipts from meeting room rentals and also receipts from guests for valeting, valet washing, repairs, telephone, parking, and other services.

Line b – Report rentals and commission receipts from operators of leased concessions, concessions, stores, and other rentals at this location not included on 8a. Also include here THIS ESTABLISHMENT'S SHARE of the receipts of concessionaire operations operated by OTHERS on these premises.

MONTH REPORT RECEIPTS

of figure in 30.76% of total receipts

	W.	Thou.	Dol.	Per-cent
a. Report whole percent				70
Not acceptable				30.76

	Census use	W.	Thou.	Dol.	Per-cent
a. Receipts from customers	035	027			100
(1) Guestroom or unit rentals	121				
(2) Sales of meals and nonalcoholic beverages	122				
(3) Sales of alcoholic beverages (liquor, wine, and beer) consumption on premises	123				
(4) Sales of packaged liquor, wine, or beer	124				
(5) Sales of other merchandise	125				
(6) All other receipts from customers – Describe on item 13 one of largest sources of receipts	485				
(7) TOTAL – Should equal Item 5	496				100%
b. Receipts from other sources	100	100			

Were any receipts other than from customers received by this establishment in its business operation? ☐ YES ☐ NO

Item 9 – CHARACTERISTICS OF OPERATION

Mark (X) the ONE box which best describes the business covered by this report. 004

Own the lodging business ☐ 1

Supply management AND housekeeping personnel, but do not own the lodging business ☐ 2

Own the lodging property (land or buildings), but neither own the business nor supply it with personnel ☐ 3

Supply management services only ☐ 4

Other – Specify ☐ 5

NOTE

Answer item 12 only if your Census File Number (CFN), shown in the address label of this report form, begins with a zero.

Item 10 – GROUP MEMBERSHIP

Was this establishment a member of one of the following types of groups in 1982? 009

a. Franchise or co-ownership group carrying common name ☐ 1 YES ☐ 2 NO

b. Other referral organization 008 ☐ 1 YES ☐ 2 NO

If "YES" to either a or b above, please furnish name of the group to which this establishment belongs.

NAME

Item 12 – OWNERSHIP, CONTROL, AND LOCATIONS OF OPERATION

a. Is this company owned or controlled by another company? 007 ☐ 1 YES ☐ 2 NO

NAME, ADDRESS, AND ZIP CODE of owner

(1) Number of parts

b. Does this company own or control any other company or companies? 006 ☐ 1 YES ☐ 2 NO

NAME, ADDRESS, AND ZIP CODE of owned or controlled company

(1) Number of parts

c. How many establishments were operated under the EI Number shown in the address label or as corrected in item 1 at the end of 1982? 010

If more than one, provide the physical location address and other information requested below for each establishment. Continue with same format in item 13 or attach a separate sheet of paper.

	NAME, ADDRESS, AND ZIP CODE	1982	W.	Thou.	Dol.	Census use
1		Receipts	201			
		Annual payroll	202			
		Census use	210			
2		1982	W.	Thou.	Dol.	
		Receipts	201			
		Annual payroll	202			
		Census use	210			
3		1982	W.	Thou.	Dol.	
		Receipts	201			
		Annual payroll	202			
		Census use	210			

Item 11 – NUMBER AND TYPE OF ACCOMMODATIONS DECEMBER 31, 1982

The number of guestrooms, units, or quarters consists of the number which can be rented as single units. Suites of rooms which cannot be subdivided should be counted as a single unit.

	Number as of December 31, 1982
a. Number of rooms, units, or quarters, by type 005	
(1) Primarily rented as transient guestrooms or units 006	
(2) Primarily rented as residential quarters or units (occupied at one's primary residence) 007	
(3) TOTAL – Sum of items (1) and (2)	
b. Does guestroom or unit rental records item 8a(1) above, primarily other than one-half from transient guests? 008 ☐ 1 YES ☐ 2 NO	

Item 13 – REMARKS – Please use this space for any explanations that may be essential in understanding your reported data.

Item 14 – CERTIFICATION – This report is substantially accurate and has been prepared in accordance with instructions.

Name of person to contact regarding this report – Print or type	Period covered by this report	FROM Mo. Year	TO Mo. Year

Telephone	Area code	Number	Extension	Signature of authorized person	Date

Form [illegible]

FORM OA-9861 (1982) U.S. DEPARTMENT OF COMMERCE BUREAU OF THE CENSUS

O.M.B. APPROVAL NO. 0607-0411: EXPIRES 12 82

LISTING BOOK

Geographic code	SIC code	ED No.	Page No.

A. Physical location (number and street)

1a. What is the name of this business?

b. Who is the owner?

c. What is the telephone number here?

d. What is the mailing address of this business?

NUMBER AND STREET

CITY OR TOWN | ZIP CODE

2. Was this business in operation at any time during 1982?

☐ Yes
☐ No — *END INTERVIEW*

3. Which of the following best describes this business? Is it a —

1 ☐ Individual proprietorship?
2 ☐ Partnership?
0 ☐ Corporation?
5 ☐ Government? or
9 ☐ Other? — *Please specify*

4. Please describe the main business performed in 1982. (Example, a restaurant)

5. Was most of your business in 1982 from —

1 ☐ Sales at retail to the general public? (household consumers and individuals)
2 ☐ Providing services such as personal services, business or repair services, or recreation services?
3 ☐ Wholesaling?
4 ☐ Manufacturing a product?
5 ☐ Construction work? or
6 ☐ Other activity? — *Describe*

6. To whom did you sell most of your products or services?

1 ☐ To the general public
2 ☐ To retail stores
3 ☐ To wholesalers
4 ☐ To construction contractors
5 ☐ To institutional, industrial, commercial, professional, government, and farm users, or
6 ☐ Other groups — *Please specify*

7a. How many proprietors and partners worked 15 or more hours during the week which included March 12, 1982?

Number

b. How many unpaid family members worked 15 or more hours during the week which included March 12, 1982?

Number

c. How many employees (full-time and part-time) were on your payroll during the pay period which included March 12, 1982?

Number

8. What was the total ANNUAL payroll for 1982? Include wages and salaries of all full-time and part-time employees.

Mil.	Thou.	Dol.

9. What was the total payroll for the period January through March of 1982?

Mil.	Thou.	Dol.

10. What were the total sales and receipts of this business for the year of 1982?

Mil.	Thou.	Dol.

11. What were the sources of sales or receipts in the past year? Please give the approximate amount of each in percentages. (Example: a gasoline station — gasoline 50%, repair work 30%, and sales of parts 20%)

Source	Percentage of receipts
	%
	%
	%
Total	**100** %

12. Do you have an Employer Identification Number? (It would be used to report Social Security withholding in 1982 on Form 941SS.)

1 ☐ Yes — What is the number? → ☐☐-☐☐☐☐☐☐☐
2 ☐ No
3 ☐ Don't know

Comments

CENSUS USE ONLY	Unit No.	Item code	Unit No.	Item code

Date form left	Date picked up

APPENDIX D: LIFE TABLES FOR GUAM

LIFE TABLE FOR GUAM, USA 1969-1971 BOTH SEXES

N	Ages x	Popn 1970	Popn (3 Years)	Deaths 1969-1971	nMx	Intermediate Variables N.nMx	Intermediate Variables 2N.nMx	q n x	p n x	l x	L n x	T n x	e x
1	0	2,320	7,360	183	.02421	.02421	.04841	.02118	.97882	100,000	98,518	6,786,030	67.86
4	1	9,115	27,345	41	.00150	.00600	.01199	.00598	.99402	97,882	390,359	6,687,512	68.32
5	5	11,762	35,286	14	.00040	.00198	.00397	.00198	.99802	97,297	486,004	6,297,153	64.72
5	10	10,304	30,912	21	.00068	.00340	.00679	.00339	.99661	97,104	484,698	5,811,149	59.84
5	15	8,049	24,147	57	.00236	.01180	.02361	.01173	.98827	96,775	481,036	5,326,451	55.04
5	20	10,270	30,810	63	.00204	.01022	.02045	.01017	.98983	95,640	475,766	4,845,414	50.66
5	25	6,406	19,218	31	.00161	.00807	.01613	.00803	.99197	94,667	471,432	4,369,649	46.16
5	30	6,171	18,513	32	.00173	.00864	.01729	.00861	.99139	93,906	467,511	3,898,216	41.51
5	35	5,474	16,422	37	.00225	.01127	.02253	.01120	.98880	93,098	462,883	3,430,705	36.85
5	40	4,792	14,376	63	.00438	.02191	.04382	.02167	.97833	92,055	455,288	2,967,822	32.24
5	45	3,530	10,590	63	.00595	.02975	.05949	.02931	.97069	90,060	443,701	2,512,534	27.90
5	50	2,305	6,915	62	.00897	.04483	.08966	.04385	.95615	87,420	427,519	2,068,833	23.67
5	55	1,748	5,244	92	.01754	.08772	.17544	.08403	.91597	83,587	400,376	1,641,313	19.64
5	60	1,070	3,210	92	.02866	.14330	.28660	.13372	.86628	76,563	357,221	1,240,937	16.21
5	65	689	2,067	68	.03290	.16449	.32898	.15199	.84801	66,325	306,424	883,717	13.32
5	70	351	1,053	73	.06933	.34663	.69326	.29543	.70457	56,244	239,682	577,293	10.26
5	75	246	738	46	.06233	.31165	.62331	.26964	.73036	39,628	171,428	337,612	8.52
5	80	105	315	53	.16825	.84127	1.68254	.59218	.40782	28,943	101,867	166,184	5.74
	85	89	267	49	.18352					11,804	64,317	64,317	5.45

LIFE TABLE FOR GUAM, USA 1969-1971 MALES

N	Ages x	Popn 1970	Popn (3 Years)	Deaths 1969-1971	nMx	Intermediate Variables N.nMx	Intermediate Variables 2N.nMx	q n x	p n x	l x	L n x	T n x	e x
1	0	1,265	3,795	118	.03109	.03109	.06219	.02627	.97373	100,000	98,161	6,438,285	64.38
4	1	4,697	14,091	23	.00163	.00653	.01306	.00651	.99349	97,373	388,225	6,340,124	65.11
5	5	6,054	18,162	8	.00044	.00220	.00440	.00220	.99780	96,739	483,165	5,951,899	61.53
5	10	5,362	16,086	14	.00087	.00435	.00870	.00434	.99566	96,527	481,585	5,468,734	56.66
5	15	4,148	12,444	49	.00394	.01969	.03938	.01950	.98050	96,107	475,853	4,987,149	51.89
5	20	4,642	13,926	53	.00266	.01330	.02660	.01321	.98679	94,234	468,056	4,511,296	47.87
5	25	3,569	10,707	25	.00233	.01167	.02335	.01161	.98839	92,989	462,246	4,043,240	43.48
5	30	3,538	10,614	27	.00254	.01272	.02544	.01264	.98736	91,909	456,643	3,580,994	38.96
5	35	3,267	9,801	28	.00286	.01428	.02857	.01418	.98582	90,748	450,522	3,124,351	34.43
5	40	3,038	9,114	52	.00571	.02853	.05706	.02813	.97187	89,461	441,013	2,673,829	29.89
5	45	2,192	6,576	39	.00593	.02965	.05931	.02922	.97078	86,945	428,372	2,232,816	25.68
5	50	1,334	4,002	46	.01149	.05747	.11494	.05587	.94413	84,404	410,232	1,804,444	21.38
5	55	1,015	3,045	63	.02069	.10345	.20690	.09836	.90164	79,689	378,848	1,394,212	17.50
5	60	577	1,731	66	.03813	.19064	.38128	.17405	.82595	71,851	327,988	1,015,364	14.13
5	65	324	972	39	.04012	.20062	.40123	.18233	.81767	59,345	269,674	687,376	11.58
5	70	160	480	43	.08958	.44792	.89583	.36596	.63404	48,525	198,228	417,702	8.61
5	75	104	312	26	.08333	.41667	.83333	.34483	.65517	30,767	127,310	219,474	7.13
5	80	42	126	30	.23810	1.19048	2.38095	.74627	.25373	20,157	63,180	92,163	4.57
	85	34	102	18	.17647					5,115	28,983	28,983	5.67

LIFE TABLE FOR GUAM, USA 1969-1971 FEMALES

N	Ages x	Popn 1970	Popn (3 Years)	Deaths 1969-1971	nMx	Intermediate Variables N.nMx	Intermediate Variables 2N.nMx	q n x	p n x	l x	L n x	T n x	e x
1	0	1,255	3,765	65	.01726	.01726	.03453	.01566	.98434	100,000	98,904	7,251,000	72.51
4	1	3,418	10,254	18	.00176	.00702	.01404	.00700	.99300	98,434	392,357	7,152,096	72.66
5	5	5,708	17,124	6	.00035	.00175	.00350	.00175	.99825	97,745	488,297	6,759,739	69.16
5	10	4,942	14,826	7	.00047	.00236	.00472	.00236	.99764	97,574	487,294	6,271,441	64.27
5	15	3,901	11,703	8	.00068	.00342	.00684	.00341	.99659	97,344	485,809	5,784,147	59.42
5	20	3,628	10,884	10	.00092	.00459	.00919	.00458	.99542	97,012	483,947	5,298,338	54.61
5	25	2,837	8,511	6	.00070	.00352	.00705	.00352	.99648	96,567	481,986	4,814,392	49.85
5	30	2,633	7,899	5	.00063	.00316	.00633	.00316	.99684	96,227	480,376	4,332,326	45.02
5	35	2,267	6,621	9	.00136	.00680	.01359	.00677	.99323	95,923	477,992	3,851,950	40.16
5	40	1,754	5,262	11	.00209	.01045	.02090	.01040	.98960	95,273	473,891	3,373,958	35.41
5	45	1,338	4,014	24	.00598	.02990	.05979	.02946	.97054	94,283	464,471	2,900,068	30.76
5	50	971	2,913	16	.00549	.02746	.05493	.02709	.97291	91,506	451,331	2,435,597	26.62
5	55	733	2,199	29	.01319	.06594	.13188	.06383	.93617	89,027	430,926	1,984,266	22.29
5	60	493	1,479	26	.01758	.08790	.17579	.08420	.91580	83,344	399,175	1,553,340	18.64
5	65	345	1,095	29	.02648	.13242	.26484	.12420	.87580	76,326	357,933	1,154,164	15.12
5	70	191	573	30	.05236	.26178	.52356	.23148	.76852	66,847	295,550	796,231	11.91
5	75	142	426	20	.04695	.23474	.46948	.21098	.78992	51,373	229,884	500,681	9.75
5	80	63	189	23	.12169	.60847	1.21693	.46853	.53347	40,580	155,572	270,797	6.67
	85	35	165	31	.18788					21,648	115,225	115,225	5.32

LIFE TABLE FOR GUAM, USA 1979-1981 BOTH SEXES

N	Ages x	Popn 1980	Popn (3 Years)	Deaths 1979-1981	nMx	Intermediate Variables M.nMx	2M.nMx	q n x	p n x	l x	L n x	T n x	e x
1	0	2,858	8,574	114	.01330	.01330	.02659	.01272	.98728	100,000	99,110	7,234,293	72.3429
4	1	10,144	30,432	17	.00056	.00223	.00447	.00223	.99777	98,728	394,471	7,135,184	72.2711
5	5	12,632	37,896	10	.00026	.00132	.00264	.00132	.99868	98,508	492,213	6,740,712	68.4283
5	10	11,338	34,014	9	.00026	.00132	.00265	.00132	.99868	98,378	491,564	6,248,499	63.5154
5	15	10,993	32,979	35	.00106	.00531	.01061	.00529	.99471	98,248	489,939	5,756,935	58.5961
5	20	11,108	33,324	47	.00141	.00705	.01410	.00703	.99297	97,728	486,922	5,266,997	53.8946
5	25	10,324	30,972	40	.00135	.00775	.01550	.00772	.99228	97,041	483,332	4,780,075	49.2585
5	30	9,289	27,867	41	.00147	.00736	.01471	.00733	.99267	96,292	479,695	4,296,743	44.6221
5	35	6,246	18,738	29	.00155	.00774	.01548	.00771	.99229	95,586	476,089	3,817,048	39.9331
5	40	5,049	15,147	41	.00271	.01353	.02707	.01344	.98656	94,849	471,609	3,340,959	35.2239
5	45	4,189	12,567	56	.00446	.02220	.04436	.02204	.97796	93,574	462,717	2,869,350	30.6690
5	50	3,983	11,949	74	.00787	.03933	.07867	.03858	.96142	91,512	448,736	2,407,185	26.3045
5	55	2,914	8,742	106	.01213	.06063	.12125	.05884	.94116	87,982	426,960	1,958,447	22.2596
5	60	1,927	5,781	115	.01989	.09946	.19893	.09475	.90525	82,805	394,411	1,531,479	18.4930
5	65	1,418	4,254	136	.03197	.15985	.31970	.14892	.85108	74,959	347,657	1,137,068	15.1692
5	70	809	2,427	100	.04120	.20602	.41203	.18678	.81322	63,849	289,498	790,011	12.3702
5	75	456	1,368	88	.06433	.32164	.64327	.27798	.72202	51,936	223,702	500,512	9.6372
5	80	180	540	52	.09630	.48148	.96296	.38046	.61194	37,548	151,302	276,810	7.3727
	85	122	366	67	.18306					22,976	125,508	125,508	5.4627

LIFE TABLE FOR GUAM, USA 1979-1981 MALES

N	Ages x	Popn 1980	Popn (3 Years)	Deaths 1979-1981	nMx	Intermediate Variables M.nMx	2M.nMx	q n x	p n x	l x	L n x	T n x	e x
1	0	1,421	4,263	54	.01267	.01267	.02533	.01181	.98819	100,000	99,173	6,933,331	69.3333
4	1	5,199	15,597	10	.00064	.00256	.00513	.00256	.99744	98,819	394,770	6,834,158	69.1687
5	5	6,458	19,374	6	.00031	.00155	.00310	.00155	.99845	98,566	492,448	6,439,388	65.3337
5	10	5,835	17,505	7	.00040	.00200	.00400	.00200	.99800	98,413	491,575	5,946,940	60.4314
5	15	5,849	17,547	23	.00131	.00655	.01311	.00653	.99347	98,217	489,480	5,455,364	55.5477
5	20	6,019	18,057	38	.00210	.01052	.02104	.01047	.98953	97,575	485,323	4,965,884	50.8979
5	25	5,194	15,582	34	.00218	.01091	.02182	.01085	.98915	96,554	480,150	4,480,562	46.4119
5	30	4,854	14,562	33	.00227	.01133	.02266	.01127	.98873	95,506	474,841	4,000,411	41.8938
5	35	3,386	10,158	15	.00148	.00738	.01477	.00736	.99264	94,430	470,414	3,525,571	37.3370
5	40	2,458	7,950	30	.00377	.01887	.03774	.01869	.98131	93,735	464,297	3,055,157	32.8048
5	45	2,171	6,513	46	.00706	.03531	.07063	.03470	.96530	91,983	451,937	2,610,859	28.3840
5	50	2,238	6,714	67	.00998	.04990	.09979	.04868	.95132	88,791	433,151	2,158,922	24.3145
5	55	1,634	4,902	71	.01448	.07242	.14484	.06989	.93011	84,669	407,586	1,725,771	20.3800
5	60	1,008	3,024	77	.02546	.12731	.25463	.11970	.88030	78,564	369,318	1,318,185	16.7782
5	65	729	2,187	83	.03795	.18976	.37952	.17331	.82669	69,162	315,841	948,867	13.7196
5	70	392	1,176	52	.04422	.22109	.44218	.19908	.80092	57,175	257,419	633,025	11.0717
5	75	185	555	47	.08468	.42342	.84685	.34944	.65056	45,793	198,938	375,607	8.2024
5	80	68	204	21	.10294	.51471	1.02941	.40936	.59064	29,791	118,466	176,669	5.9283
	85	31	93	24	.25806					17,596	58,183	58,183	3.3058

LIFE TABLE FOR GUAM, USA 1979-1981 FEMALES

N	Ages x	Popn 1980	Popn (3 Years)	Deaths 1979-1981	nMx	Intermediate Variables M.nMx	2M.nMx	q n x	p n x	l x	L n x	T n x	e x
1	0	1,437	4,311	60	.01392	.01392	.02784	.01367	.98633	100,000	99,043	7,539,484	75.3948
4	1	4,945	14,835	7	.00047	.00189	.00377	.00189	.99811	98,633	394,160	7,440,441	75.4304
5	5	6,174	18,522	4	.00022	.00108	.00216	.00108	.99892	98,447	491,969	7,046,281	71.5775
5	10	5,503	16,509	2	.00012	.00061	.00121	.00061	.99939	98,341	491,535	6,574,311	66.8524
5	15	5,144	15,432	12	.00078	.00389	.00778	.00388	.99612	98,281	490,453	6,082,756	61.8913
5	20	5,089	15,267	9	.00059	.00295	.00590	.00294	.99706	97,900	488,779	5,592,304	57.1227
5	25	5,130	15,390	14	.00091	.00455	.00910	.00454	.99546	97,612	486,951	5,103,525	52.2839
5	30	4,435	13,305	8	.00060	.00301	.00601	.00300	.99700	97,169	485,114	4,616,574	47.5109
5	35	2,860	8,580	14	.00163	.00816	.01632	.00813	.99187	96,877	482,417	4,131,459	42.6464
5	40	2,399	7,197	11	.00153	.00764	.01528	.00761	.99239	96,090	478,621	3,649,042	37.9753
5	45	2,018	6,054	10	.00165	.00826	.01652	.00823	.99177	95,358	474,851	3,170,422	33.2478
5	50	1,745	5,235	27	.00516	.02579	.05158	.02546	.97454	94,574	466,851	2,695,591	28.5024
5	55	1,280	3,840	35	.00911	.04557	.09115	.04456	.95544	92,166	450,564	2,228,740	24.1818
5	60	919	2,757	38	.01378	.06892	.13783	.06662	.93338	88,059	425,631	1,778,176	20.1929
5	65	689	2,067	53	.02564	.12821	.25641	.12048	.87952	82,193	386,208	1,352,545	16.4557
5	70	417	1,251	48	.03837	.19185	.38369	.17505	.82495	72,290	329,814	966,337	13.3675
5	75	271	813	41	.05043	.25215	.50431	.22392	.77608	59,635	264,793	636,523	10.6734
5	80	112	336	31	.09226	.46131	.92262	.37485	.62515	46,282	188,637	371,729	8.0319
	85	91	273	43	.15751					28,933	183,092	183,092	6.3288

APPENDIX E
PARTIAL CROSS-INDEX OF TABLES

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CENSUS DATA USERS

The following is a list of programs that require the use of census data, the type of data that is required, and the legislation or grant that requires such data.

Department of Mental Health and Substance Abuse:

Grant program: Territorial and Institutional Mental Health Plans, Alcohol and Drug Abuse Program.

Data required: Demographics, population projections.

Additional data desired: Alcohol consumption, drug consumption.

Department of Public Health and Social Services:

In-House programs: Immunization Control programs, Sexually Transmitted Disease Programs, Communicable Disease Control Programs, Adolescent Pregnancy Programs, Food Stamp and Welfare Programs.

Data Required: Demographics, especially income data.

Bureau of Planning:

Legislative requirement: Guam Public Law 12-200 (Comprehensive Planning).

Grant Programs: State and Local Assistance for Narcotics Control.

Other: Annual Analysis of Impact of Compact of Free Association.

Data Required: General demographics, especially age, sex, ethnicity, citizenship status, social and economic data.

Department of Parks and Recreation:

Legislative Requirements: Guam Public Law 12-209.

Grant Program: Comprehensive Outdoor Recreation Plan: Land and Water Conservation Fund.

Data Required: Number of inhabitants, general demographics.

Nieves M. Flores Memorial Library:

Legislative Requirement: Library Services and Construction Act, Titles I, II, III; Public Law 91-600.

Data Required: Population, per capita income, population in urban/rural areas, number of poverty/low income families, handicapped population.

Guam Occupational Information Coordinating Committee:

Legislative Requirements: Public Laws 94-482 (1976), 95-93 (1977), 97-300 (1982), 98-524 (1984).; Governor's Executive Order 87-17.

Data Required: Income by occupation, training program completers by occupation, training program enrollment by occupation, projected labor supply, population projections.

Department of Agriculture:

Legislative Requirements: Public Law 95-313, Guam Public Law 16-62.

Grant Requirements: Urban and Community Forestry Program.

Data Required: Population by village, ethnicity of cooperators.

Guam Police Department:

Legislative Requirements: Title 28, Section 534, United States Code.

Data Required: Total population, population age 18 and under, female population age 12 and over, number of commercial establishments, number of residences, median income.

The following Government agencies and departments do not require census data, but do use such data when it is available:

Department of Education:

Data Used: Populations projections for enrollment projections, population by village for districting requirements.

Department of Corrections:

Data Used: Total population to compute percentages of population arrested and convicted of crimes, percentages of school non-completers, percentage of population in ethnic groups.

Department of Labor:

Data Used: Total population.

Guam Power Authority:

Data Used: Total population, population by village, for use in forecasting power consumption.

Guam Contractors License Board:

Data Used: Employment by occupation, employment by industry, occupation by industry.