

ISPC



SOUTH PACIFIC COMMISSION



INTERNATIONAL LABOUR  
ORGANISATION

HB  
2152.55  
.A3  
C66x  
1983  
no. 6

ISPC



# MIGRATION, EMPLOYMENT AND DEVELOPMENT IN THE SOUTH PACIFIC

COUNTRY REPORT NO. 6  
GUAM

SOUTH PACIFIC COMMISSION  
NOUMEA, 1983

53  
2152.55  
A3  
100  
012  
10.6

**MIGRATION, EMPLOYMENT AND DEVELOPMENT  
IN THE SOUTH PACIFIC**

**COUNTRY REPORT NO. 6  
GUAM**

**John Connell**

**This research programme is being carried out and its results published with the  
financial support of the United Nations Fund for Population Activities (UNFPA)**

86 0540

**SOUTH PACIFIC COMMISSION  
NOUMEA, NEW CALEDONIA, 1983**

© Copyright 1983,  
South Pacific Commission and  
International Labour Organisation

**Front cover:**

**We are grateful to James Griffin for permission to reproduce a design of a Bougainville canoe paddle from *Bougainville artifacts: conserved or cookim coffee?*.**

**James and Helga-Maria Griffin, Occasional Paper Number 1.  
Port-Moresby: Institute of Papua New Guinea Studies, 1975.**

## Preface

This report is one of a series of country reports covering all the countries in the South Pacific Commission area that have been produced as part of the Migration, Employment and Development in the South Pacific project. This project is administered jointly by the South Pacific Commission and the International Labour Organisation and was established in April 1981 with funds provided by the United Nations Fund for Population Activities. The project, which is based in Noumea, covered all the countries and territories in the South Pacific Commission area and also investigated migration from the region into Australia, New Zealand, Canada and the United States of America. The series of specific country reports is listed on the back cover of this report.

In consultation with the SPC, the ILO appointed Mr John Connell as a resident expert to co-ordinate the implementation of the project. Within the SPC, Drs Ko Groenewegen provided guidance on technical and administrative aspects of the project. Work on the preparation of the reports was undertaken by Mr John Connell with some early research assistance from M. Jean-Marie Delmas and the secretarial assistance of Ms Maeva Betham. Advice, comments and assistance, both technical and administrative, were also provided by the ILO's Labour and Population Team for Asia and the Pacific (LAPTAP). The project is indebted to many individuals within the countries, in SPC and elsewhere, who helped in the compilation, analysis and assessment of the data and related reports, and these are acknowledged in specific country reports.

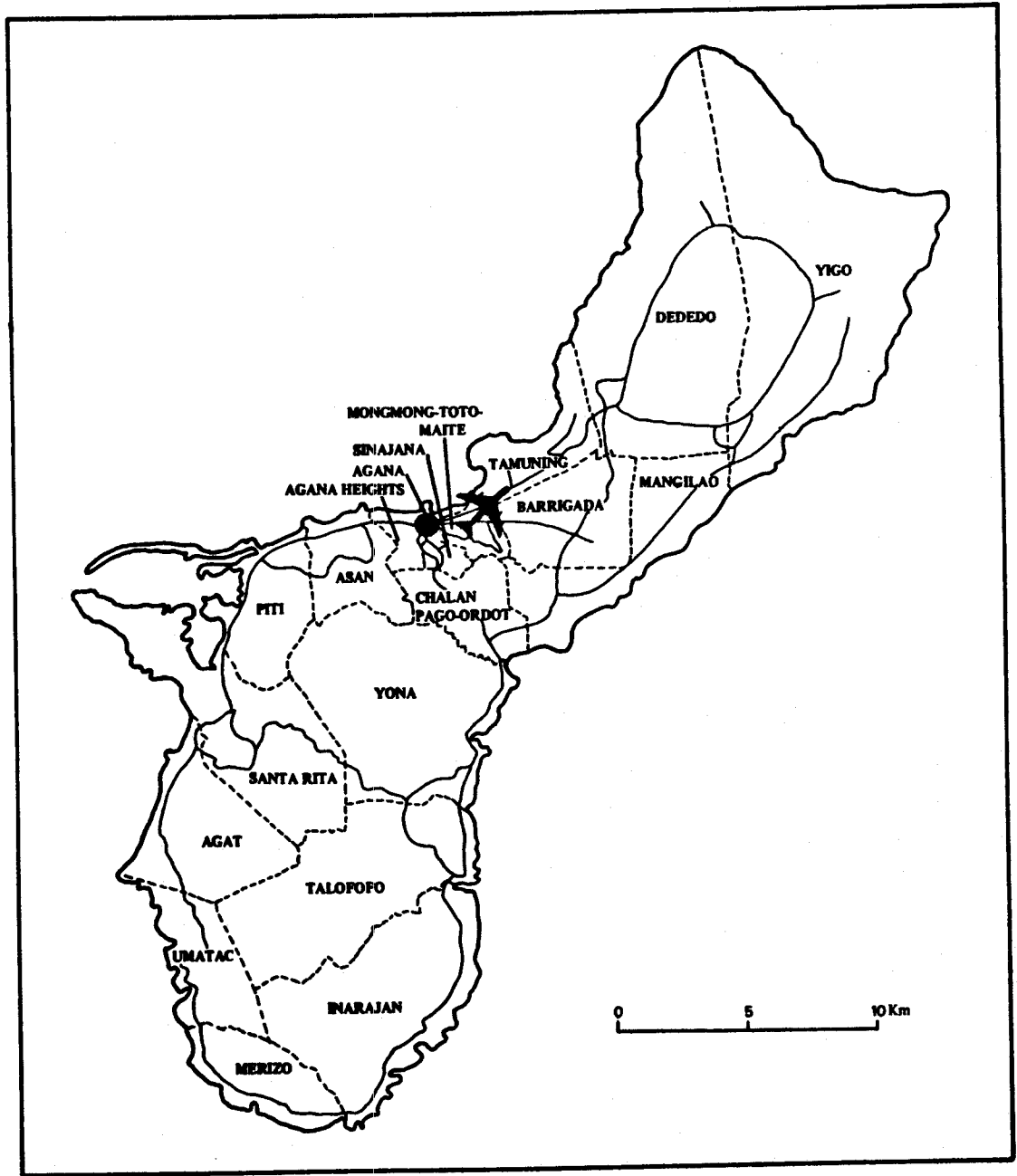
The ILO's association with the publishing of the report does not imply expression of any opinion whatsoever on the legal status of any country or territory or concerning any delimitation of its frontiers. Responsibility for opinions expressed in signed material such as this report rests with the author and publication does not constitute their endorsement by the ILO.

### Contents

Introduction	1
Economy	4
Employment	7
Population	12
Migration	14
Internal Migration	27
Conclusion	31

### List of Tables

1	Employment Status - 1970	8
2	Employment Structure, 1971-1980	9
3	Unemployment by Reason and Ethnicity, March 1979	11
4	Mean-Income, 1969 (US\$)	11
4	Mean-Income, 1969 (US\$)	13
5	Population of Guam	15
6	Population by Birthplace and Race - 1920-1960	15
7	Population Estimates by Resident Status, 1950-1980	16
8	Ethnic Composition of Population (percent)	17
9	Birthplace Origin, 1970	18
10	Birthplace - Guam - 1960	19
11	Date of immigration of Foreign-born population - Guam, 1970	20
12	Live Births by Race and Mother's Birthplace - 1979	21
13	Foreign Workers on H-2 Programmes	24
14	Migration 1965-1970	28
15	Population density and average annual growth rate by district	29



'Guam has been afflicted with a chronic shortage of skilled and unskilled labour for almost three hundred years. The archives of..Guam contain hundreds of Spanish documents...as far back as the year 1668 which contain numerous references to the island's long-standing labor problem' (Carano, 1972:78).

Guam is an unincorporated territory of the United States, and officially the westernmost part of the U.S.A. being 5,300 kms. west of Honolulu. It is the largest and most populated island in the north Pacific between Hawaii and the Philippines and is much closer to the Philippines than Hawaii, a geographical situation that has significantly influenced its population history and development. The island is about 50 kms. long and ranges from little more than 6 kms. wide at its narrowest point to around 14 kms. at its widest. It is much the largest of the Marianas Islands.

Geologically the island has two distinct parts; the northern part is limestone and the south is largely volcanic. The north is a raised but relatively flat plateau sloping southwards, without permanent streams, whilst the south consists mainly of dissected volcanic uplands. From north to south the uplands are separated by a relatively low lying area where the capital city, Agana, is located. The southern part of the island has numerous streams flowing from the interior mountains which rise to a height of 400 metres, and there are broad flat valleys of alluvial soil. Guam is prone to typhoons and on a number of occasions, and especially 1962, the island has been devastated by tropical storms.

Pre-historic populations occupied nearly the whole of the coastal areas as well as well-watered regions of the interior. The original settlement of Guam may pre-date that of most other parts of the Pacific and Guam was almost certainly settled by 4000 B.P.; current excavations at Tarague in Northern Guam have yielded stratified deposits to a depth of at least 4 metres and are likely to prove to be the oldest in Micronesia. Guam was the first island in the Pacific region to be discovered by Europeans and the first to be colonised by commercial interests. The original inhabitants of Guam, the Chamorros, are thought to have migrated from Asia and linguistic and archaeological evidence links them with the Philippines. Magellan's fleet reached Guam in 1521 but the first serious attempt to colonise the Marianas was in 1668 when Jesuit missionaries and a Spanish garrison settled on Guam. Forced labour was imposed on the population; this eventually led to rebellion and the decimation of the Chamorro population. While the population of Guam alone was estimated at around 50,000 in 1669 by 1720 the Marianas population had reduced to around 1,000. Subsequently the population began to increase with migrants from Spain, Mexico and the Philippines.

In the first half of the Nineteenth Century a small number of trading companies, mainly of American origin, were established in Guam whilst some Filipinos and Carolinians were settled there; for a time the Marianas were used as a Spanish penal colony. At the same time Chamorros began to take up employment on foreign ships. In the second half of the century immigration increased and diversified, now including Chinese migrants but being principally of Filipinos. In 1871 there was already a peak concentration of population around Agana where some 5,251 (84%) of the total population of 6,276 were living (Underwood, 1973:25-7); this concentration probably emerged as a result of immigration to this area, the major commercial centre of the Marianas, rather than through internal migration in Guam.

In 1898 the Spanish authorities on Guam surrendered to U.S.A. and the rest of the Marianas were transferred to German administration. From then onwards the history of Guam and the remainder of the Marianas diverged although there were always close ties between the islands (see Country Report No.12). Guam remained under the administration of the United States, through the U.S. Navy, except for a three year period under direct Japanese control from 1941-44 and American influence in Guam has been more extensive than anywhere else in the South Pacific region. Until the Second World War the total population grew steadily, primarily through immigration since mortality rates remained high and the proportion of the population identified as Chamorro declined throughout the century. For the first half of the century there was an intensification of dense urban development around Agaña.

Guam became an unincorporated territory of the United States in 1950 when its people became American citizens and the Department of the Interior became responsible for island administration. At much the same time the chief economic activities on the island became employment with the military establishment and this expanded rapidly especially during the Vietnam war. It was not until 1962 that American tourists were permitted to visit Guam without formal clearance and not until 1970 that Guamanians were allowed to elect a local governor. The devastation caused by Typhoon Karen in 1962 resulted in a plan being commissioned with the aim of rebuilding Guam 'into a modern American community' (Mangan, 1966:xx), an intention which has to a considerable extent been subsequently achieved. In 1975 the Northern Marianas became a U.S. Commonwealth so that Guam is now more dependent on the U.S. politically than its smaller northern neighbour, whilst the Marianas are also exempt from a number of federal restrictions that hamper Guam's economic development (Rogers, 1981:15). Curiously Guam is one of the very few island states in the South Pacific region whose political status has been unchanged since the war. Early in 1982 a referendum was held in which 48.5% of voters were in favour of Guam becoming a Commonwealth of the U.S. Ultimately this might result in stronger political ties with the Northern Marianas and the eventual unification of the two states.

As a result of four centuries of contact with European cultures there are no 'pure' Chamorros remaining in Guam, although foreign contributions to the gene pool have been less extensive than hitherto believed (Underwood, 1976), whilst Spanish, Filipino and American influences have removed most elements of traditional Chamorro culture. Specifically it is argued that the lineage and extended family system have almost disappeared; inheritance of land is now controlled by individuals and nuclear families and the kinship system is completely bilateral (Alkire, 1977:25). There is evidence to suggest that these may be over-generalisations (R. Workman, pers. comm. 1983). The political system, as in the Northern Marianas, is essentially that of the U.S.A. with elected officials at all levels and no trace of a traditional class system. In recent years attempts have been made to re-establish the Chamorro language more formally and revive some Chamorro customs; a Chamorro language programme was introduced in schools in 1975. Of all the states in the South Pacific region Guam retains the fewest vestiges of pre-contact culture and the greatest evidence of westernisation; in many contexts Guam is simply viewed as the westernmost part of U.S.A. Thus, 'due to Guam's unique history and location - far away from its "mother land" while close to Asia - it has become one of the most complex racial melting pots in the United States' (Tung, 1981:15), producing a crisis of identity for many residents over their nationality as Guamanians and/or Americans.



## Economy

The early years of naval administration in the Twentieth Century did not fundamentally change the Guamanian economy and agricultural production remained of some importance. Before the war copra production was the island's single largest industry. However it had already become prestigious to work as craftsmen or labourers for the U.S. navy and in the inter-war years U.S. financial aid had resulted in a considerable re-orientation of the economy from productive to non-productive activities. Nevertheless, in some respects, at the start of the Second World War the economy of Guam remained not totally unlike other Pacific Islands, despite Spanish, American and Japanese occupation. Rapid change began late in the war when a harbour was constructed that could handle more cargo than any other forward military port in the world. The military also constructed new roads, schools and housing areas and, in turn, took over 40% of the land for military bases. These massive construction projects provided many high-paying jobs and, as a result, the island rapidly shifted away from an agriculturally-oriented economy.

After the war American companies were encouraged to locate their Far East headquarters in Guam; the first company to begin business was a soft-drink bottling firm and this was soon followed by banks, newspapers, automobile importers and finally an oil refinery. Nevertheless major post-war economic expansion in Guam was a result of the Vietnam War which both provided civilian jobs with the military and resulted in the growth of a substantial construction industry; thus the economy further shifted away from productive employment, a shift that was emphasized after the war by the growth of tourism (rather than any re-emphasis on the productive sector). These changes were further emphasized after 1962 when Typhoon Karen destroyed 98% of the housing stock on the island resulting in massive U.S. financed reconstruction. Warfare and typhoons have had a major positive impact on some sectors of the Guam economy. As a result of the 'nightmarish success' (Reed, 1978: 231) of economic activity the population tripled after the end of the war and also became permanently swollen by tourists.

The Guam economy is now based on the trilogy of military, government and tourism, and hence in each of these ways is dependent on external revenue and political decisions. The military owns about one-third of the island whilst the government owns almost a further third; much of this is unsurveyed and unregistered (Ferris, 1980). Although the presence of the military is often resented the Korean and Vietnam wars were 'boom times' for the Guam economy because of massive military expenditure and construction activities, whilst more land is now being returned for economic or recreational use. Federal employment, primarily in the military, accounts for about 19% of Guam's total employment and military personnel and their dependents account for almost 20% of the total population, hence Guam's economy is highly dependent on Guam retaining strategic significance. Local government provides more than half of all employment in Guam. Moreover federal expenditure in 1980 totalled \$47 million. Of the civilian labour force of around 34,000 the federal government employs 6,600 and the military about 7,000; dependence on the military for employment is such that 'a prolonged decline in this sector of the economy could have disastrous effects' (Economic Research Center, 1981:11). Dependence on American expenditure is considerable and Guam's future political status and economic development are heavily dependent on Guam's strategic value to U.S. defence interests. Since the end of the Vietnam War the U.S. has been gradually

diminishing its overall military presence in Guam and the available evidence suggests that this decline is likely to continue so that employment opportunities that depend on the military presence will also continue to decline.

Tourism is by far the most important component of Guam's private sector; in 1980 the number of tourists reached a record figure and tourists contributed 34% of total retail expenditure. Tourism thus generates directly and indirectly (especially through transport, retailing and construction) some 30% of total private employment. Tourism is primarily dependent on the state of the Japanese economy and the growth of the industry effectively dates from 1967 when PanAm began direct flights between Guam and Tokyo; Japan accounted for about 76% of visitors in 1980 (and U.S.A. contributed 12%). Many of the Japanese tourists are honeymooners and Guam is probably the only country in the world where 'honeymoon' constitutes a category of visitors on the arrival card. Thus the private sector is also extremely dependent on external support, and specifically on the Japanese economy, airline routes and fares and their combined influence on Japanese tourism.

The productive element within the economy is extremely small and almost all of that production is oriented towards local consumption rather than export. The manufacturing sector accounts for only 3.3% of local employment and the refining of petroleum products accounts for 95% of all manufacturing receipts. Beyond a small number of import-substitution activities, especially for bulky products such as beer and bread, there is little manufacturing industry. Guam's location and political economy would make it a reasonable base for companies completing a manufacturing process and exporting to Asia but customs regulations and high labour costs have prevented this development, despite existing tax incentives. Current emphasis is therefore placed on the expansion of tourism rather than manufacturing development.

Primary production is even less important than manufacturing and there are no mineral or energy resources on Guam. A number of commercial farms have been established and transportation costs are currently encouraging the development of market gardening. Yet almost all food (other than eggs), including fish, are imported. There are natural constraints to agricultural development, such as poor soils and typhoons, and a shortage of local farm labour (because of high wage levels elsewhere) so that alien workers are a major component in the agricultural sector. In 1975 the Governor launched a 'green revolution' for Guam in an attempt to encourage people to develop a more self-sufficient economy and move from being consumers to producers; it was not noticeably successful (Fairbairn, 1977; del Valle, 1979:81) and agriculture remains a neglected sector (Sohn, 1977:32). Moreover agricultural output declined in both 1980 and 1981 (Guam, Department of Commerce, 1982:20). Fishing has more potential than agriculture but can only be stimulated by some grants for construction and financial incentives that may not be possible within Guam. Considerable interest has been attached to the development of an aquaculture industry in Guam but, as in other specialised areas of development, there is a shortage of locally skilled manpower to effectively establish a new programme. The lack of an agricultural and aquacultural workforce in Guam prompted the Guam legislature in 1979 to request the U.S. Department of Labor to reinstate the H-2 Alien Labor Program for these two activities (Fitzgerald, 1982:97). Traditionally the United States has banned the importation of foreign workers exclusively for short-term temporary employment hence the short-term non-immigrant workers, or H-2s, have only exceptionally been allowed into

the United States. On the mainland the major migration of H-2s was the bracero programme which involved the temporary recruitment of Mexican farmworkers for employment in south-western U.S. agriculture, but H-2s have also been permitted to work in the U.S. Virgin Islands and, for a short time, in Guam (see below). Thus the Guam economy has now developed to an extent where there is no longer a ready availability of labour for primary production activities, so that attempts to redirect the economy in this direction would be extremely difficult.

There is no economic development plan in Guam although there is an Overall Economic Development Plan (OEDP) that is revised annually, as a statutory requirement of the U.S. Department of Commerce in order that Guam be eligible for funding under Economic Development Administration (EDA) programmes in the subsequent financial year.

'The OEDP is used by EDA to ensure that the projects it funds are representative of the community's desires, coordinated with other programs and are consistent with Guam's economic development goals, objectives and policies. All projects to be funded by EDA must appear in the OEDP document. For this reason the traditional OEDP is heavily dependent on EDA funding for the projects and programs identified therein. This has the added effect of producing a narrowly focused document which keys on the projects which are eligible for EDA funding' (OEDP, 1980:iv).

This strong element of circularity is scarcely an incentive to innovative development planning. Moreover the OEDP also has restricted time horizons, usually no longer than two years, so that any long-term strategies are not translated into immediate policy objectives.

The orientation of economic development in Guam is indicated in the hiring by the Guam Legislature in 1981 of the prominent 'supply-side economist', Arthur Laffer, to prepare an analysis of the island's economic and financial system. The report recommended that Guam reduce its dependence on U.S. legislation in such areas as taxation, federal transport and customs regulations and specifically that 'the alien labor certification process and the ability to set and adjust prevailing wage rates should be the responsibility of the local government of Guam' (Eastin and Laffer, 1981: 196) but it was opposed to parallel attempts to promote Chamorro language and culture. The report also recommended the reduction of welfare programmes of various kinds, the transfer of part of Guam's public sector into the private sector and an 'aggressive effort' to attract industrial corporations to new industrial parks. Although the report does not have official status, and was subject of some controversy, it demonstrates a philosophical approach that is both in harmony with much Guamanian government thought and absent in the short-term OEDP project proposals.

Development strategies in the most general sense are aimed at expanding the private sector in an attempt to employ those hitherto dependent on military and government employment. The principal objectives of the 1980 OEDP are two-fold, firstly, to generate steady economic growth (without booms and busts) and, secondly, to maximise employment opportunities and career options for local people. Although the plan identifies four 'lead sectors' - tourism, commerce/manufacturing, fisheries and agriculture - the principal component of the private sector is tourism and the probability of significantly developing the other sectors is extremely limited. Thus the basis of the economy is dependent on external expenditure - federal

assistance to government, military expenditure and tourists. Moreover much of the recent development on Guam is a result of foreign investment especially from Japan and Taiwan; most of the construction industry is owned by American and foreign firms whilst the significant banking and finance industry is virtually entirely foreign-owned (cf. Sanchez, 1972:59). Almost all commodities consumed locally are imported and almost all of these (with the important exception of oil) come from the U.S.A.; about 90% of all food consumed in Guam in the mid 1970s was imported (del Valle, 1979:71) but, in some areas, such as fruit and vegetables, only about 75-80% is now imported compared with 98-99% of fish and meat (T. Khamoui, pers. comm. 1983).

The extensive influence of U.S. government expenditure in Guam has been apparent for more than half a century so that contemporary dependence on that expenditure is matched by earlier dependence; in 1926 the Guam Congress was informed by the Cashier of the Bank of Guam, U.S. Navy Lieutenant N.E. Disbrow,

'During the year 1925 you imported \$650,000 worth of merchandise and your exports were valued at \$90,000. Suppose the Federal Government should reduce its activities in Guam how would you get the money to maintain your present standard of living? Would you like to go back to the living conditions of fifty years ago? Your children are becoming more educated and they will demand a higher standard of living than you have today. Your standard of living is governed by your income...During the time the island of Guam was under Spanish rule you grew enough rice, coffee, cocoa, etc., to meet your requirements and had a balance to export but today you import tons of these items...The only way I can see for you to improve your financial position is to increase your agricultural production..Your copra crop can be expanded to almost unlimited bounds with very little new capital. During the year 1925 you made 1,500 tons of copra. You made into copra less than 15 nuts from each tree. This is not an average to be proud of. American Samoa, which is also under a Naval Government the same as Guam, produces a larger crop and superior quality of copra than you do...' (Guam Recorder, 2(4), October 1972:88).

There is no evidence that these suggestions were taken up and when, fifty years later, there was yet another attempt to revive the agricultural economy the results were no more successful. Thus the structure of development in Guam has been almost entirely determined by outside influences and for three centuries Guam has been influenced or dominated by foreign powers, natural disasters (primarily typhoons) and wars (domestic or foreign). Dependence on federal aid is indicated in island response to irregular typhoons; 'typhoons play havoc with the infrastructure but bring in an influx of federal relief money that creates prosperity for a time' (Ferris, 1980:22). The extent to which there can be a Guam economy that is able to respond to the vagaries of typhoons and the fluctuations in military expenditure without massive dependence on U.S. assistance, and which can maintain anything approaching the present quality of life, is extremely doubtful.

Social services in Guam are maintained at levels comparable with those of the U.S. mainland. Education is compulsory and based on the American system; there are 35 public and 18 private schools on the island and there is a high educational level on Guam. There is also a University, which is a regional centre for much of Micronesia, where masters degrees may be obtained and which houses a number of research institutions, including the Micronesian Area Research Center (MARC) and the Marine Laboratory. Health services are also provided to much higher levels and much more ubiquitously than in most other parts of the South Pacific region, and the principal diseases on Guam are primarily those of more affluent western societies (see below). All the population centres on the island are linked by major highways, and car ownership reaches a much higher level than in almost all parts of the contiguous United States and, inevitably, the rest of the South Pacific region. There is no public transport on Guam although proposals have been made for the introduction of a limited system. Thus the infrastructure and social services of Guam are very similar to those of the mainland United States and are much better developed than anywhere else in the South Pacific region.

#### Employment

Data on the employment structure of Guam are limited especially since the detailed results of the 1980 census remain unavailable, yet the general trends in employment are readily apparent and necessarily parallel the movement of the economy away from production to service orientation. Almost all employment and work activities in Guam (with the exception of unpaid domestic activities) are carried out within the formal sector and, although there are some semi-subsistence agricultural activities and some self-employment, almost all employment in Guam is formally recorded. The total employed civilian labour force in March 1980 was 33,800 of whom 49% were in the public sector and 51% were in the private. Of the private sector labour force only 5% were in productive employment, either in agriculture or manufacturing. Participation in the labour force in 1970 (Table One) was much greater in those areas where the military population is considerable, and also in Agana, and lowest in the southern municipalities, especially Umatac (59% of males and 19% of females), which are most remote from the principal sources of employment.

Since the Second World War there has been a gradual decline in agricultural employment; in 1940 2,812 persons were listed as farmers by 1950 the number was 1,189, in 1960 420 and by 1970 had declined to fewer than 27 fulltime farmers. However agricultural production has not declined at a comparable rate (Karolle, 1973:19). The decline has followed the military acquisition of land and the increased attraction and availability of non-agricultural employment; this has been exacerbated by relatively cheap food imports and natural hazards. Even in a relatively traditional municipality such as Umatac almost all employment was for wages (or salaries) outside the area to the extent that in 1970 37% of the employed population were in public administration and only 1 person (0.7%) was employed in agriculture. Since Umatac is remote from commercial and military sources of employment these forms of employment were relatively unimportant yet even so, there as elsewhere in Guam, subsistence activities had effectively disappeared as a full-time economic activity (del Valle, 1979:71-73). However some 83% of all households carried out some agricultural activities; almost all of the production was consumed by those households and none was marketed. A small number of retired people are

Table 1. Employment Status - 1970.

	Guam	Agana	Agana Heights	Agat	Asan	Barrigada	Chalan Pago-Ordot	Dededo	Inarajan	Mangilao
<b>MALES (16 and over)</b>										
TOTAL	29,085	848	1,034	1,152	704	1,671	716	3,484	437	973
Labour Force	25,274	753	873	902	583	1,402	570	3,107	316	712
%	86.9	88.8	84.4	78.3	82.8	83.9	79.6	89.2	72.3	73.2
Armed Forces	9,878	92	355	93	167	402	54	1,384	20	94
Civilians	15,396	661	518	809	416	1,000	516	1,723	296	618
Employed	15,245	659	517	802	416	981	497	1,708	291	616
Unemployed	151	2	1	7	-	19	19	15	5	2
%	1.0	0.3	0.2	0.9	-	1.9	3.7	0.9	1.7	0.3
Not in Labour Force	3,811	95	161	250	121	269	146	377	121	261
<b>FEMALES (16 and over)</b>										
TOTAL	20,463	597	862	1,135	726	1,712	703	2,665	476	840
Labour Force	7,219	300	337	380	271	619	223	1,011	127	330
%	35.3	50.3	39.1	33.5	37.3	36.2	31.7	37.9	26.7	39.3
Armed Forces	119	6	1	2	-	3	2	34	-	1
Civilians	7,100	294	336	378	271	616	221	977	127	329
Employed	6,867	288	328	368	268	601	208	927	121	316
Unemployed	233	6	8	10	3	15	13	50	6	13
%	3.3	2.0	2.4	2.6	1.1	2.4	5.9	5.1	4.7	4.0
Not in Labour Force	13,244	297	525	755	455	1,093	480	1,654	349	510
<b>MALES</b>										
	Merizo	Nong-Mong-Toto Maite	Piti	Santa-Rita	Sinsajana	Talofofo	Tamuning	Umatac	Yigo	Yona
TOTAL	359	3,136	329	3,347	896	471	3,633	207	5,047	623
Labour Force	248	2,940	185	3,132	680	378	3,187	122	4,743	441
%	69.1	93.8	75.9	80.3	87.2	58.9	87.2	58.9	94.0	70.8
Armed Forces	12	1,774	21	2,093	67	31	238	22	2,912	47
Civilians	236	1,166	164	1,039	613	347	2,949	100	1,831	394
Employed	233	1,165	162	1,027	609	341	2,924	97	1,816	384
Unemployed	3	1	2	12	4	6	25	3	15	10
%	1.3	0.1	1.2	1.2	0.7	1.7	0.8	3.0	0.8	2.5
Not in Labour Force	111	196	144	215	216	93	446	85	304	182
<b>FEMALES</b>										
TOTAL	380	1,107	347	1,800	983	482	2,604	200	2,175	669
Labour Force	109	455	79	563	341	175	1,116	35	544	204
%	28.7	41.1	22.8	31.3	34.7	36.3	42.9	17.5	25.0	30.5
Armed Forces	-	24	-	23	1	2	2	1	17	-
Civilians	109	431	79	540	340	173	1,114	34	527	204
Employed	107	423	78	511	337	166	1,084	33	505	198
Unemployed	2	8	1	29	3	7	30	1	22	6
%	1.8	1.9	1.3	5.4	0.9	4.0	2.7	2.9	4.2	2.9
Not in Labour Force	271	652	268	1,237	642	307	1,488	165	1,631	465

Source: Census of Guam, 1970:41-44.

full-time agriculturalists (op cit:75-81) but, despite its recent apparent increase in size (Table Two), the agricultural sector is virtually non-existent in Guam as a source of full-time employment.

Table 2. Employment Structure, 1971-1980.

	1971	1980
Agriculture	40	200
Construction	5,500	2,300
Manufacturing	1,100	1,100
Transportation	900	2,700
Trade	3,500	6,700
Finance, Insurance and Real Estate	800	1,200
Services	2,500	9,000
Total Private Sector	14,340	23,200
Federal	6,000	6,600
Territorial	6,600	9,300
Total Public Sector	12,600	15,900
TOTAL	26,940	39,100

Source: Economic Research Center, 1981:67.

The contemporary employment structure is absolutely dominated by service activities of various kinds (Table Two) to an extent that is not approached in the South Pacific region for a state of this population size. Although the tiny agricultural sector has grown five-fold in the past decade manufacturing employment has stabilised and construction employment more than halved hence the domination of the employment structure by service employment and by the government sector has become overwhelming. There is no evidence that this changing structure is likely to be reversed and, as elsewhere in the South Pacific but especially in the U.S. territories such as American Samoa (Country Report No.1) and the Northern Marianas (Country Report No.12), there is a clear hierarchy in preferences for employment, and this hierarchy has been well-established for several decades. Indeed in 1966 it was observed that

'..there is a definite employment hierarchy - partly in terms of status and partly in terms of pay, security and other benefits. Local workers tend to regard Federal civil service employment as the most desirable, government of Guam as next best and private employment as least attractive' (Mangan, 1966:8).

At this time therefore a chronic shortage of labour had resulted in very high rates of labour turnover, absenteeism and lack of skills in private firms; the same report concluded that to support a wage structure that would shift the balance towards the private sector would require heavy emphasis on increasing labour productivity through vocational training (*ibid*). Since this has manifestly failed to occur, and employment preferences remain the same (although Government of Guam employment now has higher prestige), the private sector remains unfavoured in its ability to attract skilled and motivated indigenous workers and it is in this sector that the bulk of alien employment is now found (see below).

At the start of the present decade Guam had entered a period of slowing economic growth, in parallel with that of the U.S. economy. Quarterly unemployment rates in 1980 were the highest since 1976 principally because of a decline in employment in the construction industry which was attributed to high wage rates, and these are not expected to improve as federal grants decrease. Since virtually all those who work in Guam are employed in the formal sector unemployment rates in Guam are calculated in the same way as those on the U.S. mainland; this procedure gives unemployment rates that can be compared with those of U.S.A. and, because of the essential disappearance of the lineage and extended family systems, records an unemployment situation that may be little different in its effect from that in U.S.A. where there is also limited personal social support for the unemployed. Thus the unemployed are those who were civilians 16 years old or over and, firstly, were neither "at work" nor "with a job, but not at work" during the reference period, secondly, were looking for work during the previous four weeks and, thirdly, were available to accept a job. Examples of job-seeking activity included registering at an employment office, meeting prospective employers, answering advertisements, etc. (Census of Guam, 1970:App.8). In December 1980 the overall unemployment rate was 8.4% but the rate for teenagers was 34.2%, being particularly high for new entrants into the labour force. The overall unemployment rate has remained around this level for several years. According to their previous occupations the unemployed in March 1980, in the main economic categories, consisted of: processing and sales (20%), structural work (14%), services (11%) and professional, technical and managerial (11%), (Manley, 1981). The number of unemployed Guamanians is much greater than that for Filipinos (Table Three) but the unemployment rates of the two main ethnic groups in Guam are the same in terms of their relative proportion of the workforce. Although much of the unemployment in Guam is believed to be structural (Sohn, 1977:20), in the sense that those out of the workforce were not seeking employment, a situation which is given some support from 1977 Bureau of Labor Statistics data (Economic Research Center, 1981:77), this does not account for all unemployment and is more likely to apply to Guamanians than to migrant groups such as the Filipinos. The 1970 census data (Table One) indicate that unemployment levels for both males and females are highest in Chalan Pago-Ordot and generally lower in the municipalities that are closer to Agana, a situation that is unlikely to have subsequently changed.

Even in the early 1970's, a time of rapid economic growth, the number of welfare recipients was steadily increasing and 15% of the population were clients of the welfare and poverty programme (Sanchez, 1972:61). In 1980 more than 23% of Guam's civilian population were food stamp recipients (Flores, 1982:1) and although it is suggested that the majority of these are aliens (J.Flores, pers. comm., 1982) there is no available documentary evidence on this issue or on the nature of unemployment in Guam.

In the absence of data on wages and salaries it is not possible to indicate the variations in income between sectors of the economy. However data from the Bureau of Labor Statistics indicate considerable income inequalities within Guam to the extent that in 1978 22% of all households had annual incomes of less than \$7,000 whilst 36% had incomes of over \$20,000 (Economic Research Center, 1981:79). Although these disparities had actually increased significantly in the two-year period from 1976 to 1978 the short time period precludes clear conclusions being made on this trend. The 1970 census recorded incomes throughout Guam (Table Four) a distribution that indicates that incomes are generally highest around Agana and fall off with distance from Agana, especially in the more traditional municipalities of the south. There are also considerable differences between sectors and



wages in agriculture are substantially lower than those in all forms of white-collar employment (Sohn, 1977:52-54). In January 1981 the average wage in the private sector was \$5.32 per hour (compared with the U.S. average of \$7.03) a figure which clearly indicates how different the Guam economy is from that of other states in the South Pacific region. Guam also has a variety of federal welfare programmes, including the Food Stamp Program and several housing programmes. Average per capita income in 1979 was \$4,769, much the highest figure in the Pacific after Nauru, further indicating the considerable differences between Guam and other parts of the South Pacific region.

Table 3. Unemployment by Reason and Ethnicity, March 1979.

	Job Losers	Job Leavers	Re-entrants	New Entrants
<b>Unemployment Level</b>				
Total unemployed	200	360	1,170	640
Guamanian	120	210	790	360
Filipino	30	100	80	160
Caucasian	-	30	80	30
Other	50	20	210	80
<b>Percent Distribution</b>				
Guamanian	58	59	58	56
Filipino	17	27	27	26
Caucasian	-	9	2	5
Other	25	5	13	13

(a) The arithmetical errors in columns three and four are in the original tabulation.

Source: Economic Research Center, 1981:74.

Table 4. Mean Income, 1969 (US\$).

	Mean Income		Mean Income
Guam	9,245	Merizo	6,976
Agana	10,061	Mongmong-Toto-Maite	10,340
Agana Heights	10,606	Piti	7,660
Agat	8,358	Santa Rita	8,938
Asan	9,775	Sinajana	9,300
Barrigada	8,173	Talofofa	8,302
Chalan Pago-Ordot	8,135	Tamuning	10,980
Dededo	9,842	Umatac	7,531
Inarajan	6,771	Yigo	8,627
Mangilao	9,153	Yona	8,388

Source: Census of Guam, 1970:57-59.

## Population

'One might suppose that a small, isolated island community would be in a better position than most to obtain sufficient quantitative and qualitative details on arrivals, departures, births and deaths to allow precise intercensal population estimates. Even in the absence of such information, it might be expected that the annual census of the civilian areas conducted by the village commissioners, supplemented by the presumably precise information available to local military and immigration officers, would provide satisfactory estimates of detailed population changes. Neither, unfortunately, is the case' (Mangan, 1966:116).

There are essentially five periods in the post-contact population history of the Marianas, firstly, a period of population stability in early contact times (1521-1668), secondly, a period of decline and contraction (1669-1786), a period of population recovery and integration (1787-1898) and, fourthly, a period of population growth and expansion (1899-1950) and finally, there is also a fifth or 'modern' period (Underwood, 1973:12). Even in the earliest post-contact period there was some concentration of population around the port-town of Agana, which was the first modern urban centre in the South Pacific region. Resistance to Spanish missionisation resulted in open hostility throughout the Marianas and the Spanish destroyed many Marianas villages and resettled the remainder of the population in a small number of villages; the Chamorro population (with the exception of a small number on Rota were all moved to Guam before the end of the Seventeenth Century (see Country Report No.12). Subsequently the Chamorro population declined to a lowpoint in 1786 for the Marianas as a whole, as a result of disease, typhoons and rebellions. Whilst the Chamorro population continued to decline, the mestizo population subsequently grew and there was a steady increase in the number of migrants from Spain, America and the Philippines. Distinctive ethnic categories became blurred in the emergence of an essentially 'neo-Chamorro' (Underwood, 1973:22) population.

The principal contemporary sources of data on population and migration in Guam are the recent censuses which, since 1960, have used the same spatial units and hence enable some measurement of internal migration. The constraints to analysis are, firstly, the absence of any 1980 census data other than population totals (because of the delayed publication of the census data) secondly, the fact that the Guam census is almost identical to that used in mainland U.S.A. and hence is not appropriate for all Guamanian requirements and, thirdly, there is no accurate information of international migration flows in a situation where these are very substantial. This latter remains a priority for any adequate development planning in Guam. Fourthly, there is often no distinction between the military and non-military populations. Finally, there have been almost no studies of the contemporary demographic situation in Guam, hence much of the present section is derived from a single source.

Despite being a territory of the United States with an average per capita income level much like that of a European country Guam possesses some demographic characteristics that are both relatively unusual and more typical of other states in the South Pacific region. Guam has had a high fertility rate, like that of other South Pacific states, but a low mortality rate similar to that of the average developed country. The population of

Guam has increased steadily since the start of the century but most dramatically in the 1940s (Table Five) as a result of the increased military presence on the island. Between 1970 and 1980 the civilian population increased from 64,700 to 85,000, with an annual growth rate of 2.8% (Tung, 1982:295) a growth rate higher than in most other countries in the South Pacific region.

Table 5. Population of Guam.

Population	
1831	6,049
1871	6,276
1897	8,698
1908	11,490
1920	13,275
1925	16,648
1930	18,509
C 1940	22,290
C 1950	59,498
C 1960	67,044
C 1970	84,996
C 1980	105,979

- (a) From 1940 onwards the census figures include the military forces, although the 1940 data exclude 319 U.S. naval station personnel.

From 1960 to 1977 there was a sharp reduction in the fertility rate on Guam; the crude birth rate declined from 36.4 per thousand in 1960 to nearly 29 per thousand by 1977; this is one of the most rapid fertility declines ever recorded (Tung, 1982:297). The reduction was most marked in the older age groups, due to a decline in marital fertility, and in the younger age groups, due to a rapid rise in age at marriage. The fertility decline has been concentrated among the Chamorro population although the Chamorro fertility rate remains one of the highest among countries with approximately the same income level; Tung suggests that this may be because Guam's high income level is not entirely due to its own socio-economic development but due to federal funding (op cit:301). The rapid decline in fertility 'may be the result of Americanisation, decreasing importance in the kinship centrality, improvement in education, shift away from subsistence economy, low mortality, implementation of a comprehensive family planning programme and gradual secularisation' (ibid) and may be expected to continue further. The result of the high fertility rate is that the Guam population is predominantly concentrated in the younger age groups; in 1980 some 32,900 (40%) of the civilian population of 82,900 were aged less than 15.

Until the inter-war years the mortality rate in Guam was very high but, especially since the war, the death rate has fallen to the extent that it is now similar to that of most European countries. Between 1950 and 1977 the crude death rate remained less than six per thousand for males, a rate that was approximately half that of the United States as a whole, a result of the youthful age structure of Guam's population (Tung, 1982: 302). During the same period, the female mortality rate was slightly higher than that of males, and the infant mortality rate was as low as that of the United States. However in 1977 the Chamorro crude death rate was more than twice that of Whites and Filipinos (op cit:302-303). Life expectancy for both