

REPORT OF THE SAMPLE HOUSEHOLD SURVEY OF KOROR/AIRAI\*  
- REPUBLIC OF PALAU -  
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by  
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## CONTENTS

PREFACE

ACKNOWLEDGEMENTS

### LIST OF TABLES

PAGE

I.	INTRODUCTION	1
	A. The Country	1
	B. Perceived Manpower Problems	4
	C. Origin of Survey	14
II.	THE HOUSEHOLD SURVEY	17
	A. Coverage	17
	B. Sampling Procedure	17
	C. Household Questionnaire	18
	D. Training of Enumerators	19
	E. Household Enumeration	20
	F. Editing and Coding of Completed Questionnaire	20
III.	DEMOGRAPHIC CHARACTERISTICS	22
	A. Household Size	22
	B. Sex-Age Composition	22
	C. Marital Status	27
	D. Citizenship	30
	E. Migration	33
IV.	EDUCATIONAL CHARACTERISTICS	41
	A. Educational Attendance	41
	B. Educational Attainments	49
	C. Educational Status	52

LIST OF TABLES

PAGE

V.	ECONOMIC ACTIVITY	58
	A. Main Activity	58
	B. Labour Force Participation	75
VI.	CONCLUSIONS	78
	ANNEXURE I : Household Questionnaire	83
	II : List of Enumerators	87

## PREFACE

As part of its activities in the field of Population, Human Resources and Development Planning (PHRDP) the Labour and Population Team for Asia and the Pacific (LAPTAP) has been assisting the countries in the region in obtaining a clearer understanding of the interrelationship between population, human resources and development planning through advisory assistance, training workshops and research studies. These activities are undertaken under UNFPA/ILO projects in the region and are co-ordinated and supported by the activities of the Employment Planning and Population Branch of the Employment and Development Department at the ILO Headquarters in Geneva.

Under the PHRDP component of its programme, LAPTAP agreed to assist the Government of the Republic of Palau in undertaking a comprehensive study on Population, Human Resources and Employment in that country. The main objectives of this study were to promote understanding among national planners and decision makers of the current employment and unemployment situation in the country and to increase their awareness of the need for integrating population and human resources development into overall development planning. As part of the comprehensive study, it was also required to assist the Government in building up its data base through a survey of population, employment and human resource.

The household survey, on which this report is based, sought to explore the demographic, educational and labour force characteristics of the population in Koror and Airai which together accounted for three-fourths of the Palauan population. Despite limitations on the

sample size imposed by resource constraints, the Survey has offered valuable insights. The survey shows evidence of a genuine increase in employment opportunities and some decline in unemployment. It also shows a concentration of the unemployed among the youth and a coexistence of unemployment with shortages of specific skills necessitating importation.

We hope that the policy-makers in Palau would absorb, and wherever necessary examine further, these and other interesting results generated by the survey as part of a continuing process of data upgradation, analysis and policy formulation.

## ACKNOWLEDGEMENTS

In February 1990, the Director, ILO/LAPTAP (Bangkok) contracted my services as a short-term consultant to advise and assist the Office of Planning and Statistics (OPS), Government of the Republic of Palau in conducting a comprehensive survey of population, employment and human resources in that country. Specifically, my responsibilities were, inter alia, to finalise the drafts of the various questionnaires prepared by OPS; assist the OPS in carrying out the survey, including the training of the enumerators; and to analyse the data and prepare the report of the survey.

In carrying out the various tasks, I have been very fortunate to receive the willing assistance and cooperation of numerous officials both in Palau and Bangkok. While it is not possible to acknowledge the contribution of everyone of them individually, I wish, however, to express my special thanks to the following:

Mr. Koichi Wong, National Planner, Office of Planning and Statistics for extending his full support and making efficient administrative arrangements for undertaking the survey and for the many courtesies extended during my stay in Palau.

Mr. Francis Matsutaro, President, Micronesian Occupational College (MOC) for his wholehearted collaboration and cooperation and for making available his staff and office as well as secretarial facilities for conducting the survey and computer processing of the data collected.

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Mr. J. Krishnamurty, the then Regional Advisor on Population and Human Resource Planning (PHRP), ILO/LAPTAP, for his technical advice in regard to various aspects of the survey.

Mr. K. Sundram, Advisor on Population and Human Resource Planning (PHRP), ILO/LAPTAP for his detailed critical comments on the original draft of the survey report which helped to enhance considerably the quality of the present report. Needless to say, I assume sole responsibility for the views expressed in the report as well as any errors of analysis and interpretation.

Ms. Amornrat Attanatho ILO/LAPTAP for her valuable assistance in analysing the survey data and preparation of statistical tables.

Ms. Rungnapa Chiewchalerm Sri, Population Division, ESCAP and Mr. Rangsiman Khantiya-Usaha for their assistance in typing of the report.

## I. INTRODUCTION

### A. THE COUNTRY

The Republic of Palau (also known as Belau) is composed of a group of 8 principal and over 200 smaller islands forming an archipelago extending about 650 km in the western Carolines. The total land area of the Republic is about 500 km<sup>2</sup> of which about 397 km<sup>2</sup> or 79 per cent is occupied by the single island of Babeladaop which is the largest island in Micronesia apart from Guam. The administrative centre, Koror, is situated just south of Babeladaop; the two islands are connected by a concrete bridge. Kayangal, a classic atoll, is located about 22 km north of Babeladaop. South of Koror are Peleliu and Anguar, while Hatohobel (formerly known as Tobi) and Sonsorol lie about 500 km southwest of Koror and are the most isolated states.

It is believed that the original settlers came to Palau from South East Asia about three thousand years ago. Ethnically, Palauans have very close affinity with the people of the Federated States of Micronesia (FSM), although within Palau itself there are apparent ethnic and linguistic distinctions. For example, the people of the extreme south islands speak a language different from that of the rest of the Palauans.

Like other Micronesian countries, Palau has been subjected to waves of colonialism, first by the Spanish, followed by the



Germans, Japanese and finally by Americans. Although each wave has left its imprint, the last one appears to have been the most far-reaching; Palauans are considered to be the most Americanized of all Micronesians. Because of the American presence, English is widely spoken; many of the older people can also converse in Japanese<sup>1</sup>.

The results of the population census conducted in April 1990 was not available at the time of writing this report. But according to the earlier census carried out in March 1986<sup>2</sup>, the population of Palau was 13,873, or 1,400 persons more than the population of 12,473 enumerated in the 1973 census which is regarded as the first reliable post-war census of the Trust Territory of the Pacific Islands<sup>3</sup>. The average annual growth rate of 0.7 per cent during the sixteen year period 1973-1984 is low by Pacific standards. This is partly due to emigration; at least 5,000 Palauans are estimated to be living abroad, most of them in Guam<sup>4</sup>. On the basis of an estimated crude birth rate of 26 per thousand and a death rate of 5 per thousand, the rate of natural increase is about 2.1 per cent per annum in 1989.

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<sup>1</sup>Norman and Ngaire Douglas (eds.), Pacific Islands Year Book 16th Edition, Angus and Robertson Publishers, p. 419.

<sup>2</sup>Office of Planning and Statistics, 1986 Census of Population and Housing of the Republic of Palau (Belau), April 1987.

<sup>3</sup>Palau was then administered as one of the four districts of the Caroline Islands component of the Trust Territory of the Pacific Islands (TTPI), the other three districts being Yap, Truk and Pohnpei, which together today constitute a Federated States of Micronesia.

<sup>4</sup>Norman and Ngaire Douglas, op. cit., p. 420

The 1986 census also showed that as many as 9,442 persons or 68 per cent of the enumerated population lived in the capital island of Koror which contained only 4 per cent of the total land area. With about 950 persons per km<sup>2</sup>, Koror has the highest population density in Micronesia apart from Ebeye in Marshall Islands<sup>5</sup>. Another 3,469 persons or 25 per cent of the total population lived in Babeldaop, the largest island in the group. Within Babeldaop, the largest concentration (1,021 persons or 29.4 per cent of Babeldaop's population) was in the state of Airai which is located in very close proximity to Koror. Only nine of the Republic's islands are permanently inhabited, and fewer than 100 people live in the southern most islands.

Because of adequate availability of land, particularly in Babeldaop, in the past and of marine resources, farming and fishing have traditionally been the main economic activity of the people, and supplied their year round requirements of food and nutrition. The main agricultural products consisted of coconuts, breadfruit, bananas, papayas and root crops such as taro, yams and sweet potatoes. Since the Second World War, there has been a significant decline in agricultural production and agricultural acreage due to migration as well as changes in the dietary preferences of the people particularly in the urban areas<sup>6</sup>.

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<sup>5</sup>Ibid., p. 420

<sup>6</sup>John Connell, Migration, Employment and Development in the South Pacific, Country Report No. 13 Palau, South Pacific Commission, Noumea, New Caledonia, 1983.

Although attempts are being made to reverse the current agricultural trends, the main constraint appears to be the availability of labour. It has been reported that attitudes towards agricultural employment have changed and that agriculture occupies a low status in the minds of the new job seekers<sup>7</sup>.

Although Palau is blessed with rich marine resources, these, like the country's agricultural potential, are largely untapped. A small fishing industry exports fresh fish to Saipan, Guam and Honolulu and there are facilities for fish storage at Malakal. Lack of manpower is the major constraint to the development of fisheries.

For various reasons such as the small size of the domestic market, high wage levels, lack of natural resources, and proximity to major Asian exporters, industrial development has very limited prospects in the country<sup>8</sup>. The few small scale industries include handicrafts, fish processing and boat-building. The tourism industry is an important source of foreign exchange, although the difficulty of gaining access to the islands and a lack of suitable facilities have hindered its development.

#### B. PERCEIVED MANPOWER PROBLEMS

The absence in the past of any production based strategies had resulted in a virtual neglect of the two vital economic sectors,

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<sup>7</sup>Palau Legislation, Palau Indicative Development Plan, Koror, 1977.

<sup>8</sup>John Connell, op. cit.

viz, agriculture and fisheries. The comparatively low agricultural income and the unattractiveness of agricultural employment have resulted in a large number of workers, particularly the young and able bodied, emigrating from the traditional agricultural regions or states to Koror and adjoining Airai states, and even overseas, in search of more rewarding non-agricultural wage employment. Based on available information, Connell concluded that "there has been a substantial life time migration from almost all parts of Palau, almost entirely to Koror", and that "between 1963 and 1973 the only state in Babeldaop that significantly gained population was Airai which has effectively shared in the growth of Koror"<sup>9</sup>. This pattern appears to have continued since 1973 and in 1986 Koror and Airai together accounted for 75 percent of the total population of Palau.

The pattern of internal migration as had taken place in Palau over the years has had far-reaching consequences both for the areas of origin as well as the areas of destination. At the places of origin or sending areas, emigration of the abled-bodied workers has resulted in a population structure weighted in favour of the relatively less productive younger (0-14 years) and older (60 years and over) age groups. Conversely, at the place of destination or receiving areas, the age-structure of the population has been biased towards the working ages, 15-59 years. Thus, according to the 1986 population census, the combined share in total population of children and old persons was 39.4 per cent in Koror, and 39.9 per

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<sup>9</sup>Ibid. p. 18

cent in Airai, the two main receiving areas, compared to 53.4 per cent in "all other states" which together are considered as the sending areas. The proportionate share of the population of working ages was 60.6 per cent in Koror, 60.1 per cent in Airai, and only 44.6 per cent in "all other states" (Table 1).

The outward migration of labour from traditional agricultural areas combined with changing attitudes towards agricultural employment has resulted in a decline in the number of persons employed in the agricultural sector (including livestock and fishing). The 1986 population census data showed that of the 4,467 persons aged 15 years and over who were employed in monetary activities<sup>10</sup>. Only 194 (of whom 50 were non-Palauans) or a mere 4.3 per cent were engaged in the agricultural sector (including fishing and livestock). The Republic of Palau, like most other Pacific islands, is facing a significant labour shortage in commercial agriculture and fishing, the development of which is "essential to maintaining and regenerating a productive and potentially export-oriented sector in the economy"<sup>11</sup>

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<sup>10</sup>The 1986 census also enumerated another category of persons as being engaged in non-monetary activities, i.e., subsistence activity in which a person mainly produces for his/her own family's use and needs, such as growing food, fishing, making copra for house use, raising livestock, making handicrafts for own use, etc. Of the 603 persons enumerated under this category 492 were engaged in growing food, 83 in fishing, 17 in livestock, and 6 in producing copra. Nearly 70 per cent of those engaged in non-monetary activities has worked for less than 20 hours each during the seven days preceding the census.

<sup>11</sup>John Connell, *op. cit.* p. 8

Table 1. Numerical and percentage distribution of population by broad age groups: Koror, Airai, All other states, and Palau, 1986

Age group	Koror		Airai		All other states		Total	
	Number	%	Number	%	Number	%	Number	%
0-14	3,134	33.2	322	31.5	1,393	40.9	4,849	35.0
15-29	2,976	31.5	321	31.5	813	23.8	4,110	29.6
30-44	1,834	19.4	185	18.1	464	13.6	2,483	17.9
45-59	913	9.7	107	10.5	313	9.2	1,333	9.6
60+	585	6.2	86	8.4	427	12.5	1,098	7.9
Total	9,442	100.0	1,021	100.0	3,410	100.0	13,873	100.0

Source: Office of Planning and Statistics, 1986 Census of Population and Housing of the Republic of Palau (Belau), April 1987, Table A9, p. 28.

Table 2. Economically active population of Palau, 1986

Category	Palau		Koror		Airai		All other states	
	Number	%	Number	%	Number	%	Number	%
Employed	5,070	81.1	3,775	84.9	366	73.8	929	70.9
Unemployed	1,180	18.9	670	15.1	130	26.2	388	29.0
Total	6,250	100.0	4,445	100.0	496	100.0	1,309	100.0

Source: Office of Planning and Statistics, 1986 Census of Population and Housing of the Republic of Palau (Belau), April 1987, table D1, p. 49.

The paradox of the manpower situations in Palau is that while a shortage of labour is considered a major constraint to the development of agriculture, fishing and other resources, there appears to be a surplus of labour or unemployment in other sectors of the economy. Reliable time series data on the employment and unemployment situation in the country is not available. The 1973 census indicated an unemployment rate of 16.2 per cent, but this estimate was considered to be high "since enumerators generally did not understand the question and included people who were not looking for work"<sup>12</sup>. The 1980 Palau Community Action Survey reported an unemployment rate of 15 per cent for Koror and 18 per cent for the country as a whole. This estimate too has been considered as high since "it would appear that many of those listed as unemployed are engaged in subsistence agriculture and fishing and many others have some form of part-time occupations"<sup>13</sup>. Estimates based on the 1986 census data<sup>14</sup> give an unemployment rate of 15.1 per cent for Koror, 26.9 per cent for Airai and 29.1 per cent in "all other states".

The 1986 census data also revealed that unemployment is a much more serious problem affecting the educated youth. For the country as a whole, 66.4 per cent of the unemployed were aged 15-29 years,

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<sup>12</sup>John Connell, Ibid., p. 11.

<sup>13</sup>F. Udui, Republic of Palau Country Paper to SPC/ILO Conference on Migration, Employment and Development in the South Pacific, 1982 (unpublished), p. 12.

<sup>14</sup>The 1986 census defined unemployed as persons older than 14 who did not have a job and were actively seeking employment and/or were available for work. Individuals who were laid off for a period of more than four weeks and who were either looking for work or available for work, were regarded as unemployed. The same applies for students who indicated that they were seeking work or were available for work.



the corresponding proportions being 68.5 per cent for Koror; 72.3 per cent for Airai; and 60.8 per cent for "all other states" (Table 3). Of the 1,180 unemployed, 825 persons or 69.9 per cent had completed one or the other grade of high school or college education, and this proportion was as high as 73.2 per cent among the unemployed in the age group 15-29 years. Those unemployed completing the high school 12th grade or higher education constituted 51.4 per cent for those aged 15-29 years compared to 47.6 per cent for all unemployed (Table 4).

An interesting aspect of the employment situation as disclosed by the 1986 census data is that while about 1,130 Palauan citizens aged 15 years and over were unemployed, an almost equal number (1,011 persons) of non-Palauans were among the 4,467 persons enumerated as employed in the country's monetary sector. Nearly 83 per cent of the non-Palauans were engaged in private sector wage employment and another 11 per cent in the public or government sector. In terms of broad occupational categories, the single largest group of the non-Palauans (21 per cent) were in service occupations such as domestic servants; another 18 per cent worked as handlers, equipment cleaners, helpers and labourers; and another about 14 per cent in construction and extractive occupations (Table 5). It would appear that a substantial proportion of non-Palauans are employed in low-paid, low-status jobs which are not sought after by the educated Palauans.

A proper understanding of the demographic and manpower situation in the country is to a large extent handicapped by a lack

Table 3. Numerical and percentage distribution of the unemployed by five year age groups: Koror, Airai, All other states, and Palau, 1986

Age group	Koror		Airai		All other states		Palau	
	Number	%	Number	%	Number	%	Number	%
15-19	148	22.1	23	17.7	57	15.0	228	19.3
20-24	193	28.8	42	32.3	105	27.6	340	28.8
25-29	118	17.4	29	22.3	69	18.2	216	18.3
30-34	71	10.6	15	11.5	47	12.4	133	11.3
35-39	41	6.1	8	6.2	29	7.6	78	6.6
40-44	35	5.2	7	5.4	30	7.9	72	6.1
45-49	26	3.9	2	1.5	12	3.2	40	3.4
50-54	13	1.9	1	0.8	16	4.2	30	2.5
55-59	16	2.4	2	1.5	10	2.6	28	2.4
60-64	7	1.0	1	0.8	3	0.8	11	0.9
65+	2	0.3	-	-	2	0.5	4	0.3
Total	670	100.0	130	100.0	380	100.0	1,180	100.0

Source: Office of Planning and Statistics, 1986 Census of Population and Housing of the Republic of Palau (Belau), April 1987, Table D1, p. 49.

Table 4. Distribution of the unemployed persons by educational attainment and five-year age groups: Palau, 1986

Education	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65+
No education	-	1	-	-	-	-	-	-	-	-	-
Elem. Sch. Gr. 1-4	10	2	1	-	2	1	2	7	11	2	1
Elem. Sch. Gr. 5-8	94	66	37	21	20	23	15	14	13	8	3
High School Gr. 9	20	20	15	10	8	24	14	4	3	-	-
High School Gr. 10	28	26	15	10	4	4	1	-	-	-	-
High School Gr. 11	15	15	16	7	3	-	-	-	-	-	-
High School Gr. 12	56	154	93	49	31	9	4	1	1	1	-
College Year 1	4	19	7	2	1	-	-	-	-	-	-
College Year 2	1	27	27	26	5	7	1	2	-	-	-
College Year 3	-	6	2	2	2	1	3	-	-	-	-
College Year 4	-	4	2	4	1	2	-	2	-	-	-
College Year 5	-	-	-	-	-	-	-	-	-	-	-
College more than 5 yrs.	-	-	1	1	1	1	-	-	-	-	-
Not Stated	-	-	-	1	-	-	-	-	-	-	-
Total	228	340	216	133	78	72	40	30	28	11	4

Source: Office of Planning and Statistics, 1986 Census of Population and Housing of the Republic of Palau (Belau), April 1987, Table D.16, p. 69.

Table 5. Classification of the population aged 15 years and over employed in the monetary sector by broad occupation groups and citizenship, 1986

Occupation	Total	Palanan's only	Non-Palanan's
1. Executive, administrative and management	354	298	56
2. Engineers, surveys and architects	48	26	22
3. Natural scientists and mathematicians	7	3	4
4. Social scientists, social workers, lawyers	84	45	39
5. Teachers, librarians, counsellors	469	398	71
6. Health diagnosis and treating practitioners	11	11	-
7. Registered nurses, pharmacists, therapists, etc.	67	66	1
8. Writers, artists, entertainers, athletes	52	41	11
9. Health technologists and technicians	28	28	-
10. Technologists and technicians (except health)	59	53	6
11. Marketing and sales	349	331	18
12. Administrative support (including clerical)	650	562	88
13. Services	782	569	213
14. Agriculture, forestry and fishing	241	188	53
15. Mechanics and repairers	153	114	42
16. Construction and extractive	318	180	138
17. Precision production	78	59	19
18. Production working	84	71	13
19. Transport and material moving	236	223	13
20. Handlers, equipment cleaners, helpers, labourers	340	157	183
21. Military	13	-	-
22. Not stated	44	33	11
Total	4,467	3,456	1,011

Source: Office of Planning and Statistics, 1986 Census of Population and Housing of the Republic of Palau (Belau), April 1987, Tables

of adequate and up-to-date data and information. The Government considers the inadequacy of recent data, both quantitative and qualitative, as a major constraint in proper assessment of specific population issues and related socio-economic variables, and consequently in the formulation and implementation of appropriate policies and programmes in the field of population and human resource development.

### C. ORIGIN OF SURVEY

It was against the background of the situation described in the preceding section that the ILO/LAPTAP agreed to assist the Government of the Republic of Palau in undertaking a comprehensive study on population, human resources and employment in that country. The long-term objective of the study was to develop an updated and integrated information system on population and related social and economic variables so as to promote national development objectives, particularly those relating to population and human resource development.

The immediate objectives of the study were to:

- a) Promote understanding among planners, policy makers and programme administrators of the current employment and unemployment situation in the country, particularly among youth, and how this situation is interrelated with migration and level and type of education, training and other family characteristics;

- b) Increase awareness among Government officials and NGOs of the need for integrating population and human resource development into overall development planning;
- c) Promote the formulation and implementation of effective population and human resource development policies at national, subnational and sectoral levels; and
- d) Improve the collection and analysis of data on population and human resource dynamics necessary for policy/programme formulation and implementation, and more specifically to (i) identify the extent and types of population movements into Koror State; and (ii) establish a clear picture of the employment and unemployment situation in the country with particular emphasis on youth, and how this situation is interrelated with migration and level and type of education/training.

The main activities proposed include:

- a) Assessment of existing data on population and human resources and identification of possible data gaps.
- b) Promotion of necessary data collection through a Survey on Population, Employment and Human Resource with special emphasis on Youth.

- c) A national seminar on the results of the Survey and possible implications for policy/programme formulation and implementation.
- d) preparation of detailed population and labour force projections.

During their mission to Palau in December 1989, the LAPTAP Adviser on Labour and Population and the Associate Expert from LAPTAP Sub-regional Office for South Pacific, Suva, Fiji, conducted extensive discussions in regard to matters relating to the survey with the National Planner, Republic of Palau. It was then decided that the Survey would consist of three components, namely, a) a survey of 250 sample households in Koror and Airai states of the Republic; b) a survey of 100 business establishments in Koror and Airai; and c) a survey of all government employees. It was also envisaged that all three components would be carried out simultaneously around April 1990. However, due to reasons of logistics, it was possible to conduct only the household survey during the visit of the Consultant in June/July 1990. The data from the household survey was computer processed in Koror and subsequently sent to Bangkok for analysis. The other two components were completed subsequently and the data relating to these two surveys is being processed in Koror. } ?

The present report contains only the results of the sample household survey.

## II. THE HOUSEHOLD SURVEY

### A. COVERAGE

The household survey was somewhat limited in its geographical coverage as it was confined only to Koror and Airai states of the Republic of Palau. As noted earlier, these two states together accounted for about 75 per cent of the country's population in 1986. In view of the distances involved, transportation difficulties, and time constraints it was not possible to extend the survey to cover the other states of the Republic.

### B. SAMPLING PROCEDURE

The survey covered a total of 257 households in Koror and Airai states selected by systematic sampling procedure. The list of buildings and maps prepared and used for the May 1990 Census of Population and Housing provided the sampling frame for the household survey.

For purpose of the survey, those buildings which were considered as not occupied by families or persons (as for example, business establishments, churches, community halls, hotels, schools, etc) were deleted; only those buildings listed as houses, apartments and barracks, house/store, etc. were included in the list of households to be sampled. This elimination process resulted in a total number of 2,172 dwelling places of which 1,923 were located in Koror and 249 in Airai.



The distribution of sample dwelling units is shown in table 6. The 257 dwelling units selected for the survey constitute about 11.8 per cent of all dwelling units in the two states. None of these sample dwelling units reported the presence of more than one household each.

Table 6: Numerical and percentage distribution of sample dwelling units

States (1)	Listed dwelling units		Sample dwelling units		(4) as percentage of (2)
	Number (2)	Per cent (3)	Number (4)	Per cent (5)	(6)
Koror	1,923	88.5	226	87.9	11.8
Airai	249	11.5	31	12.1	12.4
Total	2,172	100.0	257	100.0	11.8

### C. HOUSEHOLD QUESTIONNAIRE

The draft questionnaire prepared in Koror by the Office of Planning and Statistics (OPS) was slightly modified in Bangkok by the Consultant to obtain additional information particularly in regard to migration, educational attainment and economic activity of the people. It was also agreed to collect the relevant particulars in respect of all household members, and not from persons aged 13-59 years only as earlier proposed.

A copy of the final questionnaire used for canvassing the

#### D. TRAINING OF ENUMERATORS

The household survey was carried out by a team of twelve enumerators who were either staff members or senior students of the Micronesian Occupational College (MOC). At the request of MOC, these enumerators were first given a short course of training in general statistical methods (including sources and methods of collecting data; drafting of questionnaires; techniques of sampling; and data tabulation) so as to develop their capabilities to eventually be able to provide data studies and survey work for the entire Micronesian region. This course lasted two days.

The training of the enumerators for the household survey was intensive in nature as it had to be complete within the next three days. The training started with an explanation of the purpose of the Comprehensive Survey in general, and of the specific questions to be canvassed in particular. The enumerators, who are well-educated, were very alert and made several useful suggestions, particularly in regard to re-wording of some of the questions included in the schedule so as to elicit the correct response.

The enumerators were also provided with a practical training in survey enumerations when they were asked to interview each other or to complete the questionnaire by entering particulars relating to their own household members. They were also given training in interviewing techniques and provided with a copy of the instructions prepared in this regard for the Population and Housing Census. A copy of the set of instructions is attached to this report as

#### E. HOUSEHOLD ENUMERATION

The household survey commenced on Saturday, 2 June 1990, with the enumerators visiting the selected households allotted to them. The enumerators carried with them a letter signed by the Director, Bureau of Commerce, authorizing them to visit the selected households and obtain the necessary information. In the event of a selected household being unoccupied, or the occupants refusing to respond to the questions, the enumerators were instructed to skip that particular household and select the household next on the list.

The enumeration lasted for about a week as the task was undertaken mostly in the evenings when the occupants would be in their respective homes. Also, the enumerators who were full-time staff members of the MOC did not find it possible to undertake the household visits during normal working hours.

#### F. EDITING AND CODING OF COMPLETED QUESTIONNAIRE

The completed schedules were checked and edited daily by the Consultant. Where the information in respect of a particular question was found to be missing or incorrect, the enumerator was asked to revisit the household to obtain or verify that information. The task of coding the schedules was largely attended to by the Consultant with occasional assistance from Ms. Margaret Verato, External Data Studies Specialist, MOC.

The data that was collected was computer processed in Koror.

into the computer would commence from the time the final set of completed schedules were edited and coded, this task could not be started until 11 June 1990 since Ms. Ayano Boules of MOC who had agreed to undertake this responsibility also worked as enumerator for the household survey. The progress in regard to computer processing of the data was necessarily slow since Ms. Ayano had to attend to this task on a part-time basis.

The loaded diskettes were received in Bangkok in November 1990 and the analytical tables prepared at ILO/LAPTAP Office with the assistance of Ms. Amornrat Attanatho.

### III. DEMOGRAPHIC CHARACTERISTICS

#### A. HOUSEHOLD SIZE

As noted in chapter II, the household survey covered a total of 257 sample households of which 226 were located in Koror state and 31 in Airai state. The distribution of the households by household size or membership is shown in table 7. The total enumerated population in the 257 households was 1,427 giving an average household size of 5.55 persons for both states combined. However, this average was larger in Koror (5.65 persons) compared to Airai (4.87 persons). According to the 1986 Census, the average size of private households<sup>15</sup> was 5.45 in Koror and 4.76 in Airai.

Because of the small absolute size of the sample for Airai, all subsequent analysis in this report is being based on the combined sample for the two areas.

#### B. SEX-AGE COMPOSITION

A classification of the enumerated population by sex and broad age groups as at the 1990 Survey and 1986 Population Census is given

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<sup>15</sup>The 1986 Census defined a private household as "a person living alone and/or a single complete family unit which normally lives together and share their meals. Members of such households are usually related to the head of the household". The 1990 Survey data relates to all households, private as well as group households which contain "a group of people who usually live together and share their meals for reasons other than family relationship".

Table 7. Distribution of sample households by population size:  
Koror, Airai and both states

House- hold size	Koror		Airai		Both states	
	Number of house- holds	Number of persons	Number of house- holds	Number of persons	Number of house- holds	Number of persons
1	6	6	1	1	7	7
2	18	36	4	8	22	44
3	23	69	3	9	26	78
4	33	132	9	36	42	168
5	43	215	4	20	47	235
6	32	192	2	12	34	206
7	29	203	3	21	32	224
8	15	120	2	16	17	136
9	5	45	2	18	7	63
10 and over	22	258	1	10	23	268
Total	226	1,276	31	151	257	1,427

in table 8. The total number of males exceeds that of females in both inquiries. The overall sex-ratio, that is the number of males per 100 females, was 104.4 according to the 1990 Sample Survey and 115.3 according to the 1986 census. The decline in the sex-ratios between 1986 and 1990 may be due to emigration overseas of more males than females as is reflected in a sharper decline in sex-ratios at prime working ages 15-44 years, as well as the sampling factor.

According to the household survey data, females considerably outnumber males at ages 10-14, and 60 and over. However, the 1986 census data show an excess of females over males only at ages 60 and over. Both inquiries also show that, by and large, the excess of males is more pronounced in the working ages 15-59 years; the sex-ratio for this broad age group being 111.2 according to the 1990 Household Survey and 122.6 according to the 1986 Census. At the childhood dependent ages 0-14, these ratios were very much lower, viz, 100.5 in 1990 and 109.7 in 1986. At the older ages, 60 and over, females outnumber males according to data from both inquiries.

The distribution of the population by broad age groups for Koror/Airai given in table 9 shows that according to the 1990 Household Survey, children below 15 years of age constituted 29.4 per cent of the total population compared to 33.0 per cent at the 1986 Population Census. The slightly declining youthfulness of the population in the two states has been attributed in part to declining

Table 8. Numerical distribution of enumerated population by sex and broad age groups in Koror/Airai: 1990 Household Survey and 1986 Population

Age group	Household Survey 1990				Population Census 1986			
	Male	Female	Both sexes	Sex-ratio	Male	Female	Both sexes	Sex ratio
0-4	55	48	103	114.6	617	555	1,172	111.2
5-9	70	69	139	101.4	558	510	1,068	109.4
10-14	85	92	177	92.4	633	583	1,216	108.6
15-29	227	191	418	118.8	1,850	1,447	3,297	127.9
30-44	172	173	345	99.4	1,088	931	2,019	116.9
45-59	77	64	141	120.3	552	468	1,020	117.9
60+	43	61	104	70.5	305	366	671	83.3
Total	729	698	1,427	104.4	5,603	4,860	10,463	115.3



Table 9. Numerical and percentage distribution of the population of Koror/Airai: 1990 Household Survey and 1986 Population Census

	1990 Household Survey		1986 Population Census	
	Population	Percentage	Population	Percentage
0-14	419	29.4	3,456	33.0
15-29	418	29.3	3,297	31.5
30-59	486	34.0	3,039	29.1
60+	104	7.3	671	6.4
Total	1,427	100.0	10,463	100.0

fertility brought about by increased adoption of family planning practices<sup>16</sup>

Between 1986 and 1990 there has been an increase in the proportion of population of working ages, 15-59 years, from 60.6 per cent to 63.3 per cent. The share of the population of the elderly, that is those aged 60 years and over, has also recorded a slight increase from 6.4 per cent to 7.3 per cent.

Children below 15 years and the elderly aged 60 years and over are conventionally regarded as non-productive in the sense that they do not work, and the burden of supporting these two "unproductive" ends of the age-scale fall on the working age population. This burden is usually measured by the total dependency ratio (those below 15 years plus those 60 years and over as a proportion of those aged 15-59 years). According to the 1990 Household Survey, the total dependency ratio was 56.7 for Koror/Airai. This means that 100 persons in the working age group have to support roughly about 57 dependents in the two areas.

### C. MARITAL STATUS

It would appear that particulars relating to the marital status of the population were not canvassed in the past censuses.

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<sup>16</sup>Although family planning programme has been in operation in Palau for over a decade, there is no information on the extent and success of this programme. However, the project document on "Comprehensive Study on Population, Human Resources and Employment" prepared by the Office of Planning and Statistics states that the decline in the youthfulness of the population "may be explained by the impact of the family planning programme and increased