

Níue

2001 Census of



Population and Housing

Report

Economic, Planning, Development and Statistics Unit
Premiers Department

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Preface

Fakaalofa Lahi atu!

This Report contains analysis of data from the 2001 Census of Population and Housing for the total population of Niue as well as for each of its fourteen (14) areas produced by staff of the Statistics Unit of the Premiers Department. The results of this analysis are presented in Part I - Chapters II to VI of this Report. This report contains three parts:

- Part I - Analysis on census data
- Part II - Basic tables
- Part III - Manual of instructions.

Part I consists of six Chapters as follows:

Chapter I.	Introduction
Chapter II.	Population Structure
Chapter III	Social Characteristics
Chapter IV	Economic Characteristics
Chapter V	Household and Housing Characteristics
Chapter VI	Fertility, Mortality and Migration

Part II contains 52 Basic census tables - 19 tables are produced from Household Questionnaire, while 33 are produced from Personal Questionnaire. Census Questionnaires, glossary and references are attached as appendixes.

Part III contains the Manual of Instruction extract from field booklet.

The financial support for the 2001 census from the Government of Niue is fully acknowledged and greatly appreciated. The contribution of the United Nations through the services of a UNV is greatly appreciated.

I indeed have much pleasure in releasing this report within one year after the actual enumeration for the information of the Niue People, the Niue Government and Private Sectors, Researchers, Planners and Policy Makers who are interested in population data.

As Minister in charge of the Department responsible for the conduct of the Census and various tasks associated with it, I would like to express my sincere thanks to everyone who contributed to the success of the census operation, which took place in September 2001.

I believe that all users, researchers and university scholars will find useful information in this report, particularly on various aspects of our population.

I am aware that without the co-operation of the public as a whole and those responsible for collecting the Census information this report would have never been compiled nor its presentation possible. Therefore, I would like to congratulate everyone for the contribution to the 2001 Census.

I feel confident that the information presented in this report will be useful and a valuable tool for those who use it in considering the crucial resource factor relating to the people and its role in overall economic and social development for the betterment of our future.

Fakaaue lahi mo e kia Fakamonuina mai he Atua a tautolu oti.

Thank you very much and May God Bless us all.

Minister for Economic Development, Planning and Statistics

(Bill Vakaafi Motufoou)

ACKNOWLEDGEMENT

Fakaalofa atu, Mingalaba, Greetings

I would like to thank all persons within and outside the Statistics Unit of the Premiers Department who have made a contribution to the planning, and field operation of the 2001 census. This includes staff who have been involved in the coding, editing, and processing of the 2001 census data. I am especially grateful for the enormous amount of work done, from census preparation, design of census questionnaire, data collection and data entry by the Acting Statistician Margaret Sisikefu and Assistant Statistician KimRay Vaha, of Statistic Unit under Premier's Department.

I would especially like to thank to the Honourable Premier, Misitaigimene Young Vivian; Honourable Former Deputy Premier, Sani Elia Lakatani; Honourable Minister, Bill Vakaafi Motufoou (Minister for EDPSU); Honourable Minister, Toke Tufukia Talagi; Secretary of Government, Sisilia Talagi; and Head of Economic, Planning and Statistics Unit, Gloria Talagi for sharing their precious time in reading and giving useful comments on this report.

I also would like to express my grateful appreciation to Mr. Arthur Jorari, Population Specialist of the Secretariat of the Pacific Community who read the draft of this report and provided valuable comments and suggestions.

Finally, I must record my appreciation to Assistant Statistician for the arduous task of the Compilation, Tabulation and Publication of the census data. My thanks also go to Natalie Tatui, of economic development and planning office for her kind contribution while my counterpart Kimray Vaha was on short leave.

Last but not least, my thanks go to Mr. Crossley Tatui, Head of external affair, who contributed his valuable time to finalize this report.

Fakaaue lahi, Kyay Zu Tin Pa Dae, Thank you

(Khin Thein Mya)

UNV Demographer

SUMMARY OF RESULTS

2001 Census Population	1788
Population Density	6.9 persons per km ²
Average Annual Rate of Growth	- 3.8 %
Percentage Younger than 15 Years	30 %
Percentage 15-59 Years	56 %
Percentage 60 Years and above	14 %
Median Age, 2001	29.0 Years
Sex Ratio, 2001	101 Males/Females
Dependency Ratio, 2001	78.9
Crude Birth Rate (CBR)	18.46 ⁰ / ₀₀
Crude Death Rate (CDR)	7.8 ⁰ / ₀₀
Net Migration Rate	-48.7 ⁰ / ₀₀
Average Annual Number of Births, 1997-2001	29
Average Annual Number of Deaths, 1997-2001	16
Average Annual Number of Net Migrants, 1997-2001	-88
Average Household Size, 2001	3.4
Total Fertility Rate (TFR)	3.04
Life Expectancy at birth, both sexes (1997-2001)	70.1 Years
Life Expectancy at birth, both males (1997-2001)	68.8 Years
Life Expectancy at birth, both females (1997-2001)	71.2 Years
Infant Mortality (IMR)	29.4 ⁰ / ₀₀

PART I - REPORT

Chapter I

1. Introduction

For adequate planning Niue requires detailed information about the characteristics of its society and about specific goals of government programs to improve people's living conditions. Also required is some knowledge about the potential impact and effects of such programs on the society and its development. Such requirements speak for themselves and do not need to be dwelt upon here.

In its quest for social and economic development, Niue has often struggled with information that is incomplete or is not available at the time it is needed. Data are not only required, they are required at the opportune time for use before becoming obsolete.

The availability of data (including population data), has improved greatly in recent decades as a result of expansion and strengthening of the capabilities of the Statistics Office. By now, Niue has conducted a number of population censuses and will regularly take census. The Government of Niue has fully funded the last Population and Dwelling Census in 2001. The Statistical Office also has plans for intercensal surveys on specific topics in the years ahead.

Together with improvements in data collection, the development of computer programs for processing data has enhanced the prompt availability of tabulations appropriate for policy, planning and decision- making. The increases in communication among professionals and the availability of technical assistance have accelerated the process of collecting and publishing information in Niue. In some cases, the quality of the information still can be improved greatly. Especially needed is development and improvement in Vital Registration Systems (this of course is a Pacific wide problem that needs to be addressed by all countries in the region).

But the availability of information is not the only concern. If data are available but are not analysed, it is the same as if the data did not exist. The analysis too must be timely, as the data may rapidly become obsolete. The use of already developed microcomputer software programs has accelerated the process of analysing data in Niue.

This analytical report will provide the social and demographic indicators from the census, appropriate for monitoring and reviewing the progress of implementation of, not only the National Population Policy, but also other social and economic development policies by the government. As cited above, Niue so far has conducted a number of national population censuses. These censuses were conducted on a de-facto¹ basis and covered all persons in Niue, both citizens and non-citizens.

The purpose of this report is to present the results of the analysis of census data from the recent population census of Niue – the 2001 Population and Housing Census. The report also includes the description of procedures or methods used in the analysis. The report has three parts:

- Part I contains the results of data analysis;
- Part II contains basic tables; and
- Part III contains “manual of instructions.

Part I consists of six topics as follows:

Chapter I.	Introduction
Chapter II.	Population Structure
Chapter III	Social Characteristics
Chapter IV	Economic Characteristics
Chapter V	Household and Housing Characteristics
Chapter VI	Fertility, Mortality and Migration

Part II presents 52 basic census tables. There are 19 tables produced from Household Questionnaire, while 33 tables were produced from Personal Questionnaire. Sample Census Questionnaires, glossary and references are attached as appendixes.

Part III contains an extract from field booklet called “manual of instruction”.

It is also obvious that in the conduct of a statistical operation as large and complex as a national census, it is inevitable that errors will occur due to questions being misunderstood,

¹ Persons are counted in the census at the locations in which they spent census night, regardless of where they usually resided.

replies being incorrect or misinterpreted, etc. In fact, errors could have been introduced at all stages of the census, from planning, field operation stage, non-responses, non-call back to check on households that were missed during the actual enumeration and the training of enumerators (i.e. misunderstanding on the part of enumerators). Also errors could have been introduced at the data processing stage (editing, coding and data entry). In designing and carrying out the field procedures, including training procedures, considerable efforts were made in order to reduce the effects of such errors on the results. However, it is clear that several errors still occurred.

The Census of Population and Housing on Niue was conducted on 7, 8 and 9 September 2001. The Census moment or sometimes referred to as a “reference point in time” is 12 midnight that connects Friday, 7 September with Saturday 8 September 2001. The Census is therefore a count of the populations as at 12 o’clock midnight of that night.

Furthermore, like earlier censuses the 2001 Census was a de-facto census of the whole population. Every building structure used as a private dwelling house was recorded and all persons sleeping there, whether temporary or otherwise, on “Census Night” were included in census.

The enumerators commenced fieldwork on the 7 and 8 September 2001 and enumerated the name and particulars of all persons likely to spend Census Night in each enumeration area. On Sunday 9 September they did another round of visits to each and every house to check their initial enumeration and to ascertain which of the persons previously recorded were actually present on Census Night. Those who had died or gone away were eliminated from the census, and newborn babies and in-migrants were included. The enumeration was completed in three days.

The 2001 Niue Census utilized two schedules - Household/Dwelling Schedule and Population Schedule. Household schedule consists of 17 questions and Population Schedule consists of 33 Questions.

1.1. Summary of Results

A total population of 1788 persons consisting of 897 males and 891 females, were enumerated. This count represents all persons actually present in Niue at the time of census. Out of 1788 total population, private household population was 1736 persons with 867 males and 869 females while non-private institution population was 22 persons with 16 males and 6 females. There were 30 persons with 14 males and 16 females who were enumerated outside private and non-private dwellings – regarded as “moving population”.

Temporary overseas population was enumerated at 78 with 37 males and 41 females. The total population of 1788 persons excludes temporary overseas population. The previous Census of 28 September 1997 enumerated the total population at 2088 persons. As a result, Niue has a negative population growth rate of 3.8.

There were 508 households. The details of housing, household and population characteristics will be discussed on later chapters.

Chapter II

2 Population Structure

2.1 Population Size, Growth, Distribution and Density

The size, growth and distribution of the population within a country's territory depend on both historical factors and current-day characteristics. While early settlers tend to locate in a particular part of a country because of land ownership, food and water possibilities, weather conditions, and perhaps geological considerations, subsequent current populations may locate for completely different reasons. In many developing countries, the modernisation process introduced by the industrialised countries permitted the emergence of urban areas, with very high population growth rates and corresponding high densities.

The above population factors are equally important in determining overall development strategies for any country. As people both produce and consume goods, development plans regarding production, consumption, investment, health status, education status, economic activities, living status, housing, etc. should take population factors into consideration.

This Chapter discusses population size, growth and distribution, presents some of the most frequently used indices, and considers the analysis and measurement of population density.

2.1.1 Population Size

According to the final results, the total enumerated population of Niue is 1788 with 897 males and 891 females with a sex ratio of 101 males per 100 females. About 97.1 percent of this population live in private household, 1.2 percent in non-private institutional arrangements, while 1.7 percent are regarded as "moving population". The household population consists of 49.9 percent of males and 50.1 percent of females, Institutional population consists 73 percent males and 27 percent females while moving population consist of 47 percent males and 53 percent females. (Table 1).

The percentage distribution of males and females in each enumerated areas is presented in TableA1.

Table A1. Percentage Distribution of Males and Females by Area

<i>Area</i>	<i>Male</i>		<i>Female</i>		<i>Total</i>		<i>Male</i>	<i>Female</i>
	<i>Num</i>	<i>%</i>	<i>Num</i>	<i>%</i>	<i>Num</i>	<i>%</i>	<i>%</i>	<i>%</i>
<i>Makefu</i>	48	55.17	39	44.83	87	4.87	2.68	2.18
<i>Tuapa</i>	62	48.06	67	51.94	129	7.21	3.47	3.75
<i>Namukulu</i>	9	64.29	5	35.71	14	0.78	0.50	0.28
<i>Hikutavake</i>	28	43.08	37	56.92	65	3.64	1.57	2.07
<i>Toi</i>	15	48.39	16	51.61	31	1.73	0.84	0.89
<i>Mutalau</i>	63	47.37	70	52.63	133	7.44	3.52	3.91
<i>Lakepa</i>	43	48.86	45	51.14	88	4.92	2.40	2.52
<i>Liku</i>	34	46.58	39	53.42	73	4.08	1.90	2.18
<i>Hakupu</i>	114	50.22	113	49.78	227	12.70	6.38	6.32
<i>Vaiea</i>	38	61.29	24	38.71	62	3.47	2.13	1.34
<i>Avatele</i>	60	48.00	65	52.00	125	6.99	3.36	3.64
<i>Tamakautoga</i>	71	50.71	69	49.29	140	7.83	3.97	3.86
<i>Alofi South</i>	186	51.96	172	48.04	358	20.02	10.40	9.62
<i>Alofi North</i>	126	49.22	130	50.78	256	14.32	7.05	7.27
<i>Total</i>	897	50.17	891	49.83	1788	100.00	50.17	49.83

Table A1 shows that 50.17 percent of the total population are males and 49.83 percent are females. The most populated area is Alofi South. The table indicates that 20.02 percent with 10.40 percent males and 9.62 percent females live in Alofi South, 14.32 percent with 7.05 percent males and 7.27 percent females in Alofi North, while 12.70 percent with 6.38 percent males and 6.32 percent females in Hakupu village. Less than one percent of the total population can be found only in Namukulu village and that percentage is 0.78 percent with 0.50 percent males and 0.28 percent females. Over 22 percent of the total population live in Tamakautoga, Mutalau and Toi villages.

In Namukulu and Vaiea villages more than two thirds of their village population are males population and only one third are females. Out of 14 villages listed in Table 1, 6 villages are male dominated and 8 villages are females dominated. The males dominated villages are Makefu, Namukulu, Hakupu, Vaiea, Tamakautoga and Alofi South. Females dominated villages are Tuapa, Hikutavake, Toi, Mutalau, Lakepa, Liku, Avatele and Alofi North. The sex ratio is 101 males per 100 females.

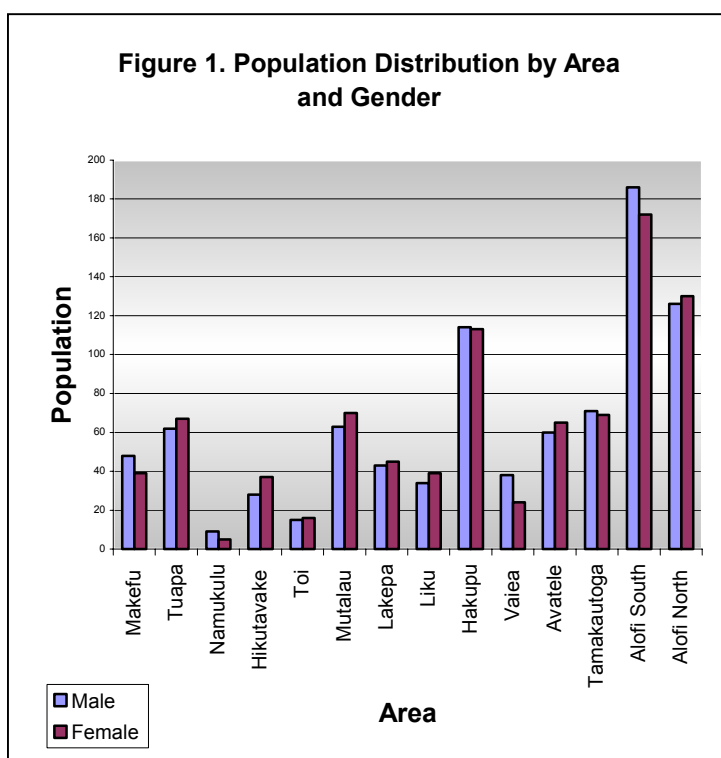


Figure 1 shows the population by area and Gender. It shows that majority of Niue people are living in Alofi South and males exceed females in that area followed by Alofi North and female exceeds males in Alofi North. The figure shows that in Hakupu and Toi villages males and females are almost equal. Figure 1 also shows that Namukulu is the least populated in Niue having only 14 people with 9 males and 5 females. The second least populated village is Toi village with 15 males and 16 females.

Table A2. Population Size by Area and Population Change, Niue 1997 and 2001

<i>Area</i>	<i>Population 2001</i>	<i>Population 1997</i>	<i>Population Change</i>
<i>Makefu</i>	87	95	-8
<i>Tupa</i>	129	168	-39
<i>Namukulu</i>	14	28	-14
<i>Hikutavake</i>	65	68	-3
<i>Toi</i>	31	35	-4
<i>Mutalau</i>	133	148	-15
<i>Lakepa</i>	88	125	-37
<i>Liku</i>	73	92	-19
<i>Hakupu</i>	227	258	-31
<i>Vaiea</i>	62	46	16
<i>Avatele</i>	125	143	-18
<i>Tamakautoga</i>	140	150	-10
<i>Alofi south</i>	358	443	-85
<i>Alofi North</i>	256	289	-33
Total	1788	2088	-300

Table A2 shows population size and change during the inter-census period 2001 and 1997 by villages. Overall, it shows a decrease of 300 people, a decrease by about 14 percent. All the villages lost people except Vaiea, which gained 16 people. These 16 people have migrated from Tuvalu (see Table 43 in Part II).

2.1.2 Population Growth

Due to the impact of the three demographic processes, fertility, mortality and migration, all populations change continuously. In a 'closed' population (that is a population closed to migration), change is an entirely 'natural' process since only births and deaths affect it. In this case, population change is therefore called 'natural' increase. If in- and/or out-migration also affect a population, change in population size is called population growth.

During the entire period 1997-2001, international migration has very much affected Niue's population size. The rate of natural increase (RNI) is a difference between births and deaths in a population. In the case of Niue, during the 12 months before the census, there were 33 births and 8 deaths recorded resulting in natural population gain of 25 persons. The RNI indicates what the population growth rate would have been in the absence of migration.

As a result of high international out-migration Niue has experienced depopulation. The annual intercensal growth rate for the period 1997-2001 was estimated at -3.8 percent per annum.

2.1.3 Age and Sex Distribution

The distribution of a population by age and sex is one of the most basic types of information needed in planning for the future. For example, an analysis of educational requirements, labour force projection, family composition, retirement, migration, or voting practices, etc, would not be complete without considering information on age and sex. Age and sex are important variables in demographic analysis as well. The study of fertility and mortality without considering age would permit only a partial understanding of these phenomena.

Age is the central variable in most demographic as well as socio-economic analysis. Virtually all information collected during a census or any other data collection exercise varies with age. Most information presented in census tables are cross-classified by age (and sex). During all previous censuses in Niue, a considerable effort was therefore made to establish the age of respondents as accurately as possible. This is

not an easy task in many countries. Until recently, only a small proportion of the population was familiar with chronological age whereas birth certificates and other documentation containing date of birth or age were hardly ever available.

Given the importance of the age structure with respect to social and economic characteristics, it is imperative that the information on the population age sex structure be as accurate as possible. Below are measures derived to establish the accuracy of age-reporting during the 2001 census. It then interprets changes in the age-sex structure during the intercensal periods, but particularly during the most recent interval 1997-2001, by comparing the age-sex pyramids, as well as a number of indices that have been derived from the age-sex structures.

2.1.4 Detecting Age Misreporting

Population data are often subject to age misreporting and the Niue data are no exception. Irregularities in the age distribution produced by respondents misreporting their age can be detected in graphical cohort analysis, where age misreporting may be suggested by the repetition of a similar age pattern for different cohorts (as opposed to the parallelism expected for the same cohort). Comparing data from two censuses shows if the age pattern of the population at the two census dates is consistent. For example, there could be a shortage of people in the age 20 to 29 years in the 2001 census compared to the earlier census (16 to 25 years in the 1997 census). Migration can cause distortions of the age pattern and, therefore, the age of migrants as well as the direction of migration movement should be analysed. Any overall repetitive pattern should be interpreted as errors in the data, which thus would need some adjustment before in-depth analysis

Age misreporting in the process of enumerating the population in a census can come from two sources. One source is the respondent, who either wilfully misreports his or her age or gives an approximation if the true age is unknown. The other source of error is the interviewer who estimates the age of a respondent who does not know his or her age. In either case, the result of this age-guessing process is that ages are often rounded to end in the digits 0 and 5.

2.1.5 Digit Preference

Irregularities in reporting single years of age can be detected by using indices or graphs. There are several frequently used indices for detecting digit preference: Myers (1940), Whipple (US Bureau of Census, 1971), and some others. These indices not only provide an overall idea of the extent of age misreporting but also indicate the preference for certain ending age digits. The analysis also can be done graphically by constructing a typical population pyramid by single years of age or a line graph by single years of age. The single age pyramid or the line graph should show age misreporting in the country's population in certain ages (such as 30, 40, 50, and 60 years). Information on age containing such errors requires adjustment.

Two indices of age misreporting for the resident population based on census data classified by age and sex have been calculated.² The results are presented in the summary table below. The Indices for the previous censuses were not calculated because data are not available.

Indices of accuracy of age reporting of the resident population by sex derived from the 2001 census data

	Myers' M	Index F	Whipples' M	Index F
Niue	5.5	4.5	93.8	103.5

Myers' Index measures the excess or deficit of persons reporting ages ending in any of the 10 digits, expressing these deviations as percentages. The larger the value of this index, the greater the preference for certain digits. The range of this index is from a minimum of 0 to a maximum of 180. In a population with a Myers' Index of 0, there is no preference or dislike for any of the 10 terminal (unit) digits of age (that is, accurate age reporting). If Myers' Index is 180, all ages have been reported/recorded with the same terminal digit (that is, inaccurate age reporting). Although Myers' Index for 2001 is still higher than 0, there is clearly no problems with age reporting in Niue than in some other countries in the Pacific region.

² For an example of the computation of the 3 indices of the accuracy of age reporting used in this Report, see the United Nations, 1955. Methods of Appraisal of Quality of Basic Data for Population Estimates, Manual II, Population Studies, No. 23, Department of Economic and Social Affairs, Population Branch, UN, New York.

Whipple's index detects a preference for ages ending in zero, five, or both. If age reporting is consistent, this index should fluctuate slightly around 100. The higher the value of the index, the higher the preference for digits zero and five. The Whipple's index for each sex in 2001 was between 90 and 105, indicating better reporting (see the above summary table).

Whipple's index is calculated using age data for population aged 23-62 years. The range of 23-62 years is selected because the phenomenon of age heaping is most typically found in this range and the data at younger and older ages are often subject to errors and irregularities of other types. The value of Whipple's index is very close to 100 when there is no particular concentration of ages ending in 0 and 5 are reported. **These indices show that age reporting in Niue 2001 Census was fairly accurate.**

2.1.6 Age/Sex composition

The percentage distribution of total population by broad age group, median age for both sexes, males and females as well as dependency ratios are presented in Table A3. The median age of all persons, males and females are 29.0 years, 28.5 years and 29.0 years respectively.

Table A3. Percentage Distribution of Total Population by Broad Age Group, Gender, Sex Ratio, Median Age and Dependency Ratio, Niue 2001

Age Group	Sex Ratio	Total		Male		Female	
		Num	%	Num	%	Num	%
Total	101	1788	100	897	100	891	100
Under 15 years	105	529	29.6	271	30.2	258	29.0
15 - 59 Years	102	999	55.9	504	56.2	495	55.6
60 Years and Above	88	260	14.5	122	13.6	138	15.5
Median Age		29.0 Years		28.5 Years		29.0 Years	
Dependency Ratio		78.98					

2.17 Dependency ratio

For the purposes of this Report, the Dependency Ratio has been defined as the population under the age of 15 and the population age 60 and over ('dependent' population) divided by the population in the age-group 15 to 59 ('working' age population) multiplied by 100. The 'old age' cut-off point age 60 has been chosen instead of the internationally recommended age 65. The reason for this is that Niue is a small population and economy and consequently a low official retirement age. The Age Dependency Ratio gives only a very

approximate picture of the real dependency situation in the country. Ideally, the level of economic dependency should of course be determined in an in-depth sample survey.

The Age Dependency Ratio can be divided into two parts, the Youth Dependency Ratio and the Old Age Dependency Ratio. The former only takes youths under the age of 15 into account. It is clear that in Niue the overall Age Dependency Ratio is high because the youth component is high. The Old Age Dependency Ratio is high compared to other Pacific Island countries. Users are again reminded that the internationally recommended Old Age Dependency Ratio is based on the population age 65 and over. The 'real', internationally comparable level of old age dependency in Niue is therefore even lower than that suggested by the data in Table A3 above. The ratio for 2001 is 78.98 which is lower than 1997 dependency ratio of 84.5. It could mean that more people are entering into work than dependent even though the people in the working age group are migrating out.

2.1.8 Median Age

The Median Age is that age where 50 percent of the population is younger and 50 percent older. As shown in Tables A3, the Median Age for males as well as females in 2001 is clearly not low, as is to be expected of a population with a high level of emigration and moderate level fertility, and changed only a little between 1997 and 2001. Median age in Niue is 29.0 years for all persons that is higher than 27.0 years at 1997. Males and females median ages are 28.5 years and 29.0 years respectively (Table A3).

2.1.9 Sex Ratio

The sex-ratio is the number of males per 100 females. In most populations where the age-sex structure is not distorted, the sex-ratios for subsequent 5-year age groups are expected to decrease gradually with increasing age. This is due to the fact that in the majority of populations, the mortality risk at all ages is higher for males than for females. In addition to that, the average sex-ratio at birth, that is the number of live born male per 100 live born female children in one year is not 100. The worldwide average sex ratio at birth is usually assumed to be close to 105. There is evidence that this ratio may be somewhat higher or lower for certain populations. Incomplete and often quite inaccurate data from civil registration systems and health department records in some countries in the Pacific Region suggest that the sex ratio at birth may be somewhat higher than 105. This seems particularly the case for some Melanesian populations, although conclusive evidence is not available.

The sex ratio by broad age group in Table A3 also shows that there are more males than females in the age group less than 14 and 15-59 and these ratios are 105 and 102 respectively. But in older ages 60 years and above, the table shows that there are more females than males and the sex ratio at is age is 88, which means that there are 88 males for every 100 females. It is due to gender differentials in mortality, because women usually have higher life expectancy than men.

2.1.10 Age/Sex Structure

Figure 2. Population Pyramid by Age and Sex, Niue 2001

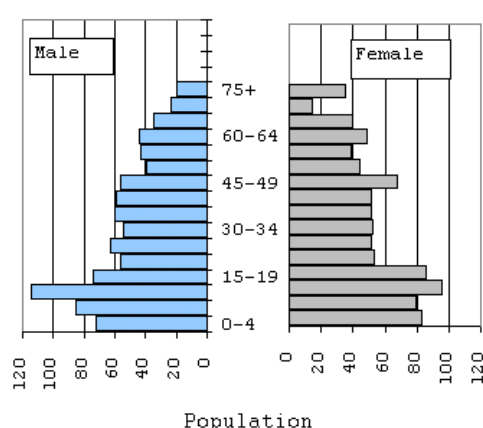


Figure 2 presents Population Pyramid of Niue, based on the 2001 census. It shows that it is shrinking at the age of 0-4(base of the pyramid) even though fertility increases from 3.0 in 1997 to 3.2 in 2001. The “indent” in age group 20-29 years is obvious as a result of emigration. It also shows that more females than males at these age groups left the country during the most recent intercensal period. Another striking feature is that there are more females than males in age group 60 and above as a result of sex differential mortality. That is, women generally have high life expectancy than men.

The pyramid also shows that population aged 10-14 years has the highest percentages compared to the rest of the age groups. The percentage of males at age group 0-4 is 8.0 and for females at the same age group is 9.3. Both males and females percentages at age group 0-4 are lower than that of age group 10-14. The percentages of age group 0-4 for both sexes, males and females are lower than that of 5-9 and 10-14 age groups.

It is obvious from the pyramid and from Table A4 that Niue is experiencing depopulation as a result of decreasing fertility and emigration to other countries. Percentage distribution of population by age and sex is presented in Table A4.

Table A4. Percentage Distribution of Total Population by Five Year Age Group and Sex

<i>Age</i>	<i>Both Sexes</i>		<i>Males</i>		<i>Females</i>	
	<i>Num</i>	<i>%</i>	<i>Num</i>	<i>%</i>	<i>Num</i>	<i>%</i>
<i>Total</i>	1788	100	897	100	891	100
<i>0-4</i>	155	8.7	72	8.0	83	9.3
<i>5-9</i>	164	9.2	85	9.5	79	8.9
<i>10-14</i>	210	11.7	114	12.7	96	10.8
<i>15-19</i>	160	8.9	74	8.2	86	9.7
<i>20-24</i>	109	6.1	56	6.2	53	5.9
<i>25-29</i>	114	6.4	63	7.0	51	5.7
<i>30-34</i>	106	5.9	54	6.0	52	5.8
<i>35-39</i>	111	6.2	60	6.7	51	5.7
<i>40-44</i>	110	6.2	59	6.6	51	5.7
<i>45-49</i>	124	6.9	56	6.2	68	7.6
<i>50-54</i>	83	4.6	39	4.3	44	4.9
<i>55-59</i>	82	4.6	43	4.8	39	4.4
<i>60-64</i>	93	5.2	44	4.9	49	5.5
<i>65+</i>	167	9.3	78	8.7	89	10.0

2.1.11 Population Density

Crude population density has been used to analyse the concentration of population. Population density has been calculated by dividing the total population of Niue by the corresponding total surface area of the country.

The appropriate measure of density depends on the purpose of the analysis. For example, if a large part of a country is uninhabited because it is comprised of coral or rocks, the average density may be quite low, even though most of the people live in crowded conditions in a small part of the country. Hence, it may be more appropriate to estimate population densities omitting surface areas of uninhabited parts of the country. For this reason, densities are sometimes calculated as persons per unit of agricultural or arable land.

The total population of Niue is 1788, while total land area is 259km². The crude (arithmetic) population density is defined as the number of persons per km² at the time of the censuses is 6.9 person per km² at the time of the 2001 census.

Crude population density gives a rather misleading picture of the real population-land situation in Niue. A far more meaningful measure of population density as mentioned above is the number of persons per km² of land that is used for agriculture ('arable land'). These physiological densities provide a far more realistic picture of the population-land situation than the crude population densities. Since there are no data on the effective arable land, related population densities have not been calculated.

Chapter III

3 Social Characteristics

3.1 Citizenship

Table A5. Percentage Distribution of Household Population by Citizenship and Gender for all Ages

<i>Citizenship</i>	<i>Total</i>		<i>Male</i>		<i>Female</i>	
	<i>Number</i>	<i>%</i>	<i>Number</i>	<i>%</i>	<i>Number</i>	<i>%</i>
<i>Total</i>	1736	100	867	100	869	100
<i>NZ NIUEAN</i>	1470	84.7	712	82.1	758	87.2
<i>NZ NON – NIUEAN</i>	91	5.2	54	6.2	37	4.3
<i>Australian</i>	10	0.6	4	0.5	6	0.7
<i>Fijian</i>	25	1.4	13	1.5	12	1.4
<i>Tongan</i>	63	3.6	35	4.0	28	3.2
<i>Western Samoa</i>	10	0.6	5	0.6	5	0.6
<i>Tuvalu</i>	42	2.4	29	3.4	13	1.5
<i>Other Pacific</i>	3	0.2	2	0.2	1	0.1
<i>USA</i>	11	0.6	7	0.8	4	0.5
<i>Other South American Country</i>	1	0.1	0	0.0	1	0.1
<i>France</i>	1	0.1	0	0.0	1	0.1
<i>Poland</i>	1	0.1	1	0.1	0	0.0
<i>UK</i>	6	0.3	4	0.5	2	0.2
<i>Other Asian</i>	2	0.1	1	0.1	1	0.1

Table A5 shows the percentage distribution of population by citizenship and gender. It can be found that 84.7 of household population holds NewZealand citizenship as well as Niue citizenship. They are called NewZealand Niuean, followed by NewZealand Non-Niuean, which contributes 5.2 percent. 3.6 percent of Niue household population are Tongan where as 2.4 percent are Tuvalu and 1.4 percent are Fijians. Other citizen(i.e. Australian, Western Samoan, Other Pacific, USA, Other south American Country, France, Poland UK and Other Asian) has a percentages of less than one.

3.2 Decent/Ethnicity

Ethnicity are divided into 6 groups as follows:

- | | |
|----------------------|---|
| (1) Niuean | (4) Half Niuean Half Caucasian |
| (2) Caucasian | (5) Half Niuean Half Pacific Islander and |
| (3) Pacific Islander | (6) Asian |

Table A6. Percentage Distribution of Household Population by Descent/Ethnicity and Gender for all Ages, Niue 2001

<i>Decent/Ethnicity</i>	<i>Total</i>		<i>Male</i>		<i>Female</i>	
	<i>Number</i>	<i>Percent</i>	<i>Number</i>	<i>Percent</i>	<i>Number</i>	<i>Percent</i>
<i>Total</i>	1736	100	867	100	869	100
<i>Niuean</i>	1399	80.6	682	78.7	717	82.5
<i>Caucasian</i>	81	4.7	47	5.4	34	3.9
<i>Pacific Islander</i>	182	10.5	101	11.6	81	9.3
<i>Half Niuean Half Caucasian</i>	28	1.6	12	1.4	16	1.8
<i>Half Niuean Half Pacific Islander</i>	42	2.4	24	2.8	18	2.1
<i>Asian</i>	4	0.2	1	0.1	3	0.3

Percentage distribution of population by decent/ethnicity and gender is presented in Table A6. It shows that Niuean population constitutes 80.6 percent whereas Pacific Islander population constitutes 10.5 of the total population. Other races are less than 5 percent. Among male population 78.7 percent are Niuean and 11.6 percent are Pacific Islander, but for females theses percentages are 82.5 and 9.3 respectively.

Figure 3. Population Distribution by Decent/Ethnicity, Niue, 2001

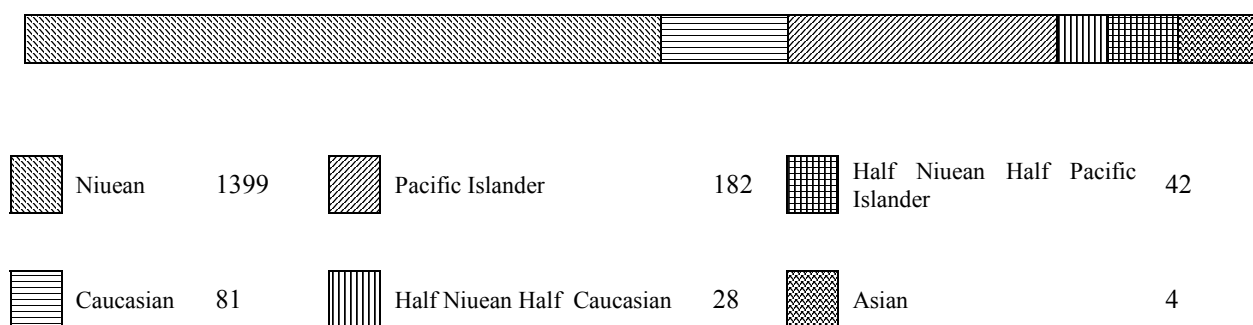


Figure 3 presents population distribution by decent/ethnicity. It shows that Niuean constitutes the highest number with a population of 1399, follows by Pacific Islander with a population of 182 and then Caucasian with a population of 81.

3.3 Religion

Religion is categorized as follows: Ekalesia Niue, Latter Day Saints, Roman Catholic, Jehovah's Witness, Seventh Day Adventist, Others, None and Not Stated

Ekalesia Niue with 62.96 percent constitutes the highest proportion of the population followed by Latter Day Saints with 9.10 percent, All the rest are less 9 percent. Religion Not Stated is high with almost 6 percent. Among male population Ekalesia Niue constitutes 63.7 followed by Latter Day Saints with 8.65, and for females these percentages are 62.26 and 9.55 respectively, Table A7 presented Percentage Distribution of Population by Religion and Gender for all ages.

Table A7. Percentage Distribution of Household Population by Religion and Gender for all Ages, Niue 2001

<i>Religion</i>	<i>Total</i>		<i>Male</i>		<i>Female</i>	
	<i>Number</i>	<i>%</i>	<i>Number</i>	<i>%</i>	<i>Num</i>	<i>%</i>
<i>Total</i>	1736	100	867	100	869	100
<i>Ekalesia Niue</i>	1093	62.96	552	63.67	541	62.26
<i>Latter Day Saints</i>	158	9.10	75	8.65	83	9.55
<i>Roman Catholic</i>	128	7.37	57	6.57	71	8.17
<i>Jehovah's Witness</i>	43	2.48	17	1.96	26	2.99
<i>Seventh Day Adventist</i>	25	1.44	13	1.50	12	1.38
<i>Others</i>	151	8.70	68	7.84	83	9.55
<i>Not Stated</i>	138	7.95	85	9.81	53	6.10

3.4 Education Attainment

Education questions are asked to all persons five years and above.

3.4.1 School Attendance

Of all school going age 5-19 at education level (Primary, secondary and tertiary) 77.15 are attending school and 22.85 percent are not attending school. Among males these percentages are 94.12 and 19.78 respectively and among females these percentages are 73.95 and 26.05 respectively. It shows that over one fourth of females are not attending school. They are probably engaged in housework. It also shows that about 90 percent of primary and secondary students are attending school. But only about 50 percent of tertiary students are attending school. The percentage distribution of population 5 – 19 years of age by school attendance for primary, secondary and tertiary students is presented in Table A8.

Table A8. Percentage Distribution of Household Population 5-19 Years of age by School Attendance

<i>Age Group</i>	<i>Total</i>		<i>Attending School</i>		<i>Not Attending School</i>	
	<i>Number</i>	<i>Percent</i>	<i>Number</i>	<i>Percent</i>	<i>Number</i>	<i>Percent</i>
<i>Total</i>	534	100	412	77.15	122	22.85
<i>5-9</i>	164	100	148	90.24	16	9.76
<i>10-14</i>	210	100	190	90.48	20	9.52
<i>15-19</i>	160	100	74	46.25	86	53.75
<i>Males</i>	273	100	219	80.22	54	19.78
<i>5-9</i>	85	100	80	94.12	5	5.88
<i>10-14</i>	114	100	104	91.23	10	8.77
<i>15-19</i>	74	100	35	47.30	39	52.70
<i>Females</i>	261	100	193	73.95	68	26.05
<i>5-9</i>	79	100	68	86.08	11	13.92
<i>10-14</i>	96	100	86	89.58	10	10.42
<i>15-19</i>	86	100	39	45.35	47	54.65

3.4.2 Education Level

Of all population 5 years and above 2.09 percent are not educated, 14.35 percent are in primary education level, 38.31 percent are in secondary education level and 18.39 are in tertiary education level. Among male population these percentages are 1.26, 11.95, 38.62 and 19.50 respectively and among female population these percentages are 2.92, 16.77, 37.99 and 17.28 respectively. The percentage distribution of population 10 years and above by education level is presented in Table A9.

Table A9. Percentage Distribution of Household Population 5 years and above by Education Level

<i>Education Level</i>	<i>Total</i>		<i>Males</i>		<i>Females</i>	
	<i>Number</i>	<i>Percent</i>	<i>Number</i>	<i>Percent</i>	<i>Number</i>	<i>Percent</i>
<i>Total</i>	1582	100	795	100	787	100
<i>No Education</i>	33	2.09	10	1.26	23	2.92
<i>Primary</i>	227	14.35	95	11.95	132	16.77
<i>Secondary</i>	606	38.31	307	38.62	299	37.99
<i>Tertiary</i>	291	18.39	155	19.50	136	17.28
<i>Still at School</i>	412	26.04	219	27.55	193	24.52
<i>Not Stated</i>	13	0.82	9	1.13	4	0.51

3.4.3 Education Qualification

About two thirds of Niue population has no education qualification, this figure included primary students and some secondary students who were still in school and reported as no education qualification. This statement is also true among Niue males and females. Trade certificate education qualification with 8.5 percent constitute the second largest proportion of the population.. 7.02 percent of the population are in form 5, 6.76 percent are diploma holder, 3.29 percent is degree holder, 0.76 percent holds Master Degree and there are no Doctorate in Niue. Among male population 10.57 percent is Trade Certificate holder, 6.42 percent is Diploma holder, 3.27 percent is Degree holders and 0.88 percent is Master Degree holder. Among females these percentages are 6.48, 7.12, 3.30 and 0.64 respectively. Males trade certificate holders are nearly twice as much as females trade certificate holders. But female diploma and degree holders excess males and also male master degree holder excess female master degree holder. 0.82 percent of the total population is not stated on education qualification. Among males 1.13 percent and among females 0.51 percent is not stated. The percentage distribution of population 5 years and above by education qualification is presented in Table A10.

Table A10. Percentage Distribution of Household Population 5 years of age and above by Education Qualification

<i>Education Qualification</i>	<i>Total</i>		<i>Males</i>		<i>Females</i>	
	<i>Number</i>	<i>Percent</i>	<i>Number</i>	<i>Percent</i>	<i>Number</i>	<i>Percent</i>
<i>Total</i>	1582	100	795	100	787	100
<i>No Qualification</i>	1015	64.16	489	61.51	526	66.84
<i>Form 5</i>	111	7.02	60	7.55	51	6.48
<i>Form 6</i>	68	4.30	33	4.15	35	4.45
<i>UE</i>	42	2.65	20	2.52	22	2.80
<i>Trade Certificate</i>	135	8.53	84	10.57	51	6.48
<i>Diploma</i>	107	6.76	51	6.42	56	7.12
<i>Degree</i>	52	3.29	26	3.27	26	3.30
<i>Masters</i>	12	0.76	7	0.88	5	0.64
<i>Doctorate</i>	0	0.00	0	0.00	0	0.00
<i>Others</i>	27	1.71	16	2.01	11	1.40
<i>Not stated</i>	13	0.82	9	1.13	4	0.51

3.5 Marital Status

Marital Status is asked to all person age 15 and above and it is categorized as follow:
Never Married, Married, Widowed, Divorced, Separated and de facto.

3.5.1 Marital Status by Gender

More than one third of Niue population is never married. This is true among Niue male population. But for females never married percentage is only 28.27. More than half of Niue population are married and this is also true among Niue male population and female population. Among Niue population 5.38 percent is defacto. Among male and female population percentages of defacto are 5.20 and 5.56 respectively. Percentage distribution of marital status by gender is presented in Table A11.

Table A11. Percentage Distribution of Household Population 15 years and above by Marital Status and Gender

<i>Marital Status</i>	<i>Total</i>		<i>Males</i>		<i>Females</i>	
	<i>Num</i>	<i>%</i>	<i>Num</i>	<i>%</i>	<i>Num</i>	<i>%</i>
<i>Total</i>	1208	100.00	596	100.00	612	100.00
<i>Never Married</i>	381	31.54	208	34.90	173	28.27
<i>Married</i>	634	52.48	321	53.86	313	51.14
<i>Widow</i>	85	7.04	18	3.02	67	10.95
<i>Divorced</i>	20	1.66	8	1.34	12	1.96
<i>Separated</i>	23	1.90	10	1.68	13	2.12
<i>De Facto</i>	65	5.38	31	5.20	34	5.56

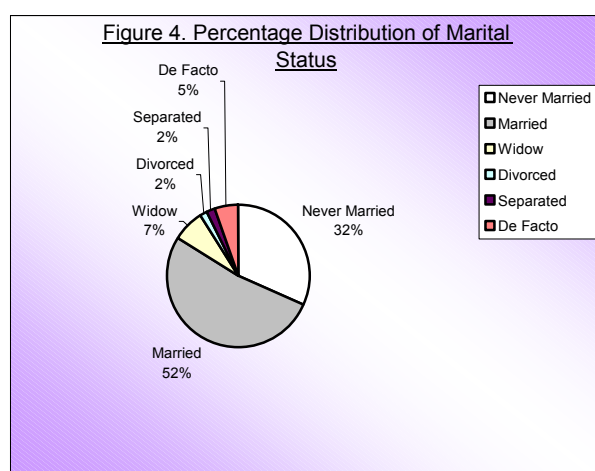


Figure 4 shows percentage distribution of Marital Status of Niue Population. It shows that 52 Percent of Niue Population are Married and 32 Percent are Never Married. Proportion widowed constitute 7 percent of the total population and 2 percent of the total population are divorced and another 2 percent are Separated. De facto constitutes 5 percent of the total population.

3.5.2 Marital Status by Five Year Age Group

Among male population 100 percent is never married at the age group 15-19 and among females this percent is 91.9 in the same age group. 78.2 percent of males are never married in the age group 20-24 where as for females this percent is only 60 in the same age group. In general as age becomes older, the proportion of never married becomes lesser and the proportion of married becomes higher. The highest proportion of de facto can be found in the age group 20-24 for both males and females. The proportion of female de facto is twice as much as male de facto in the age groups 20-24 and 35-39. But male de facto is 4 times higher than female de facto in the age group 40-44. The percentage distribution of population 15 years and above by Marital Status, Five Year Age Group and Gender is presented in Table A12.

Table A12. Percentage Distribution of Household Population 15 years and above by Marital Status, Five Year Age Group and Gender

Age Group	Marital Status												Total	
	Never		Married		Widow		Divorced		Separated		De Facto			
	Num	%	Num	%	Num	%	Num	%	Num	%	Num	%	Num	%
Males	208	34.9	321	53.9	18	3.0	8	1.3	10	1.7	31	5.2	596	100
15-19	74	100.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	74	100
20-24	43	78.2	4	7.3	0	0.0	0	0.0	0	0.0	8	14.5	55	100
25-29	25	41.7	27	45.0	0	0.0	0	0.0	0	0.0	8	13.3	60	100
30-34	15	30.6	24	49.0	1	2.0	1	2.0	1	2.0	7	14.3	49	100
35-39	15	28.3	32	60.4	0	0.0	1	1.9	3	5.7	2	3.8	53	100
40-44	11	18.6	42	71.2	0	0.0	1	1.7	0	0.0	5	8.5	59	100
45-49	2	3.85	46	88.5	1	1.9	1	1.9	2	3.8	0	0.0	52	100
50-54	4	11.4	27	77.1	1	2.9	1	2.9	1	2.9	1	2.9	35	100
55-59	4	9.76	31	75.6	3	7.3	1	2.4	2	4.9	0	0.0	41	100
60+	15	12.7	88	74.6	12	10.2	2	1.7	1	0.8	0	0.0	118	100
Female	171	27.94	315	51.5	67	10.9	12	2.0	13	2.1	34	5.6	612	100
15-19	79	91.9	3	3.5	0	0.0	0	0.0	0	0.0	4	4.7	86	100
20-24	30	60.0	5	10.0	1	2.0	0	0.0	0	0.0	14	28.0	50	100
25-29	19	40.4	23	48.9	0	0.0	0	0.0	0	0.0	5	10.6	47	100
30-34	6	12.0	36	72.0	0	0.0	2	4.0	1	2.0	5	10.0	50	100
35-39	6	12.24	35	71.4	1	2.0	1	2.0	2	4.1	4	8.2	49	100
40-44	2	4.1	41	83.7	1	2.0	3	6.1	1	2.0	1	2.0	49	100
45-49	8	11.94	50	74.6	6	9.0	0	0.0	2	3.0	1	1.5	67	100
50-54	2	4.7	31	72.1	8	18.6	1	2.3	1	2.3	0	0.0	43	100
55-59	5	14.71	21	61.8	4	11.8	2	5.9	2	5.9	0	0.0	34	100
60+	14	10.2	70	51.1	46	33.6	3	2.2	4	2.9	0	0.0	137	100

3.5.3 Singulate Mean Age at Marriage

In the absence of official marriage registration by the Civil Registry for most of the resident population, the average age at first marriage can only indirectly be derived from census data on marital status classified by age and sex. Table A13, presents the 'Singulate Mean Age at Marriage' SMAM (in years) of the resident population by sex in 2001.³

Singulate Mean Age at Marriage for both sexes, male and female is 26.5 years, 28.4 years and 24.5 years respectively. It means that females married earlier age than males. Calculation of Singulate Mean Age at Marriage is presented in Table A13.

Table A13. Singulate Mean Age at Marriage (SMAM), Niue 2001

Age Group	Never Married					
	Male		Female		Both Sexes	
	Number	Percent	Number	Percent	Number	Percent
<i>Males</i>	189	34.9	152	27.9	341	31.4
15-19	74	100.0	79	91.9	153	95.6
20-24	43	78.2	30	60.0	73	69.5
25-29	25	41.7	19	40.4	44	41.1
30-34	15	30.6	6	12.0	21	21.2
35-39	15	28.3	6	12.2	21	20.6
40-44	11	18.6	2	4.1	13	12.0
45-49	2	3.9	8	11.9	10	8.4
50-54	4	11.4	2	4.7	6	7.7
Sum(15-49)		301.3		232.6		268.5
1	5*Sum(15-49)	1506.3		1162.9		1342.6
2	(1)+15*100	3006.3		2662.9		2842.6
3	(NM(45-49)+NM(50-54))/2	7.6		8.3		8.0
4	50*(3)	381.3		416.0		402.4
5	(2) - (4)	2625.0		2246.9		2440.2
6	100 - (3)	92.4		91.7		92.0
SMAM=(5)/(6)		28.4		24.5		26.5

³ For an example of the computation of Hajnal's Singulate Mean Age at Marriage (SMAM), see the United Nations, 1983. Indirect Techniques for Demographic Estimation, Manual X, Population Studies No. 81, Department of International Economic and Social Affairs, UN, New York.

3.5.4 Marital Status by Household Head

Among a total of 508 households 76 percent of the household is headed by male and only 24 percent is headed by female. Never married male head of household is more than twice as much as never married female head of household. Married male household head are more than 10 times as married female head of household, but widowed female head of household is five times more than widowed male head of household. Percentage Distribution of Population 15 years and above by Marital Status and Household head is presented in Table A14

Table A14. Percentage Distribution of Household Population 15 Years and above by Marital Status and Household Head

Head of Household	Marital Status												Total	
	Never Married		Married		Widowed		Divorced		Separated		De Facto			
	Num	%	Num	%	Num	%	Num	%	Num	%	Num	%	Num	%
Total	73	14.37	318	62.60	67	13.19	13	2.56	19	3.74	18	3.54	508	100
Males	50	9.84	291	57.28	14	2.76	6	1.18	8	1.57	15	2.95	384	75.59
Females	23	4.53	27	5.31	53	10.43	7	1.38	11	2.17	3	0.59	124	24.41

3.6 Smoker/Non-Smoker and Drinker/Non-Drinker

Among population 15 years and above three fourth of them are Non-Smoker, about 15 percent are casual smoker and only 10 percent are heavy smoker. Among male population 15 years and above these percentages are 66.9,17.5 and 16.6 respectively and among female population 15 years and above these percentages are 82.8, 12.6 and 4.6 respectively. The data shows that majority of females are non-smokers.

Among population 15 years and above 53 percent is non-drinker, 43 percent is casual drinker and 4 percent is heavy drinker. Among males these percentages are 38, 54 and 8 respectively and among females two thirds of them are non-drinker, about one third of them are casual drinker and less than 0.5 percent is heavy drinker. Percentage Distribution of Population 15 Years and above by Smoker/Drinker, Non-smoker/Non-Drinker and gender are presented in Table A15.

Table A15. Percentage Distribution of Household Population 15 Years and above by Smoker/Drinker, NonSmoker / Non-Drinker and Gender

Smoking/Drinking	Total		<i>Male</i>		<i>Female</i>	
	Num	%	Num	%	Num	%
Smoking	1208	100	596	100	612	100
Non Smoker	900	74.50	393	65.94	507	82.84
Casual Smoker	181	14.98	104	17.45	77	12.58
Heavy Smoker	127	10.51	99	16.61	28	4.58
Drinking	1208	100	596	100	612	100
<i>Non Drinker</i>	636	52.65	229	38.42	407	66.50
<i>Casual Drinker</i>	524	43.38	321	53.86	203	33.17
<i>Heavy Drinker</i>	48	3.97	46	7.72	2	0.33

Chapter IV

4 Economic Characteristics

This chapter deals with the economic characteristics of individuals and households collected from the 2001 Niue Population and Housing Census. The 1997 and 2001 censuses included questions on the basic economic characteristics of respondents age 15 and over. In both censuses, a question on current activity was followed by some more detailed questions concerning occupation, industry and type of employer. These additional questions were asked of all persons in the labour force (defined as those from age 15+). The 2001 census also included some household economic questions.

Census questions on economic characteristics of individuals and households should be simple. Censuses cannot provide detailed information on household and individual income and expenditure, hours worked, employment, underemployment, unemployment, etc. It is not feasible to collect this more sophisticated economic data during one relatively short census interview carried out throughout the entire country by a very large number of enumerators who have only received rather basic training. A more appropriate place for the collection of this type of economic information is sample surveys such as Household Income and Expenditure Surveys, Labour Force Surveys, Employment and Unemployment Surveys etc.

Economic characteristic is an important implication for administrators, planners and policy makers to determine standard of living of the population of the country.

4.1 Economically Active and Economically Not Active

The 2001 census collected information on 'current' economic activity that is during a short reference period of 1 week prior to the enumeration. The current economic activity question was followed by questions on occupation, industry and type of employer but only for respondents in the money-raising labour force.

Cash workers, substance workers and unemployed persons are categorized as Economically Active Persons whereas students and other are categorized as Economically Not Active Persons. The "Other" includes pensioners, disabled persons and missionaries, etc.

Among Niue household population 61.84 percent are economically active population and 38.16 percent are economically not active population. Most of economically not active persons are pensioners

and females who were engaged in housework. Among male population these percentages are 75.34 and 24.66 respectively and among females these percentages are 48.69 and 51.31 respectively. Among economically active population 60.11 percent are males and 39.89 percent are females. Male and female cash workers are almost evenly distributed. Among subsistence workers four fifth of them are male and one fifth are females. Among unemployed persons 52.38percent are males and 47.62 percent are females. Among economically not active population 31.89 percent are males and 68.11 percent are females. Percentage distribution of population 15 years and above by economic activity and gender is presented in Table A16.

Table A16. Percentage Distribution of Population 15 Years and above by Economic Activity and Gender, Niue 2001

<i>Economic Activity</i>	<i>Total</i>		<i>Male</i>		<i>Female</i>		<i>Male</i>	<i>Female</i>
	<i>Num</i>	<i>%</i>	<i>Num</i>	<i>%</i>	<i>Num</i>	<i>%</i>	<i>%</i>	<i>%</i>
<i>Population 15 Years and above</i>	1208	100	596	100	612	100	49.34	50.66
<i>Economically Active</i>	747	61.84	449	75.34	298	48.69	60.11	39.89
<i>Cash</i>	663	54.88	387	64.93	276	45.10	58.37	41.63
<i>Subsistence work</i>	63	5.22	51	8.56	12	1.96	80.95	19.05
<i>Unemployed</i>	21	1.74	11	1.85	10	1.63	52.38	47.62
<i>Economically Not Active</i>	461	38.16	147	24.66	314	51.31	31.89	68.11
<i>Domestics Duties</i>	204	16.89	31	5.20	173	28.27	15.20	84.80
<i>Student</i>	116	9.60	48	8.05	68	11.11	41.38	58.62
<i>Other</i>	141	11.67	68	11.41	73	11.93	48.23	51.77

4.2 Labour Force Participation

In Table A17, the age and sex specific Labour Force Participation Rates (LFPR) of the population enumerated in the 2001 census is given. It should again be stressed that this information is based on the 'current' activity of respondents. The rate for the total population is the Crude Labour Force Participation Rate.¹

Persons in labour force consist of people who were working fulltime, part time, working to produce for own use, working for sale, unemployed and those who were engaged in domestic duties. Persons not in labour force consist of people who were full time students and other. Others consist of pensioner, disable, missionaries, etc.

¹ The Crude Labour Force Participation Rate in this Report is defined as the number of persons in the Labour Force divided by the total population.

Of total household population 15 years and above 78.73 percent are in labour force and 21.27 are not in labour force with 39.74 percent of males and 38.99 percent of females are in labour force and 9.6 percent of males and 11.67 percent of females are not in labour force. Among men more than four fifth of them are in labour force and only about one fifth are not in labour force. But among women more than three fourth of them are in labour force and nearly one fourth are not in labour force. In age group 15-19 nearly one third of household population are in labour force and more than two third are not in labour force. This is because age group 15-19 is a school going age group and majority of the population in this age group are full time students, among male population about one third of them are in labour force and two third are not in labour force in the same age group, but among females in this age group, only one fourth are in labour force and three fourth are not in labour force. In the age group 20-59, about 95 percent are in labour force and about 5 percent are not in labour force. This statement is true also for males and females of the same age group. In the older age (60 and above) persons in labour force and persons not in labour force are almost equal for both sexes and for females. But for males in this age group two third of them are in labour force and more than one third are not in labour force. Labour Force Participation by Age and Gender is presented in Table A17. Male labour Force Participation rate is higher than Females. It is natural that female generally stay home to take care of the children and do house work.

Table A17. Labour Force Participation by Age and Gender

Labour Force Participation	Total	15-19	20-29	30-39	40-49	50-59	60+
Total	100	100	100	100	100	100	100
In Labour Force	78.73	29.38	94.34	96.52	96.48	93.46	58.04
Not in Labour Force	21.27	70.63	5.66	3.48	3.52	6.54	41.96
Male	100	100	100	100	100	100	100
In Labour Force	80.54	33.78	94.78	94.12	97.30	92.11	61.02
Not in Labour Force	19.46	66.22	5.22	5.88	2.70	7.89	38.98
Female	100	100	100	100	100	100	100
In Labour Force	76.96	25.58	93.81	98.99	95.69	94.81	55.47
Not in Labour Force	23.04	74.42	6.19	1.01	4.31	5.19	44.53

Compared to the 1997 Census, the labour force participation rates of the total population is higher in the 2001 Census. It is also true for females as opposed to males which were higher in 1997 than 2001. Employment to population ratio is higher in 2001 Census compared to the 1997 census for both sex - males and females. On the other hand, unemployment rate was lower in 2001 census than 1997 census. The economic activity by gender, Niue, 1997 and 2001 is presented in Table A18.

Table A18. Economic Activity by Gender, Niue, 1997 and 2001

<i>Economic Indicators</i>	<i>Total</i>		<i>Males</i>		<i>Females</i>	
	1997	2001	1997	2001	1997	2001
<i>Labour Force Participation Rate</i>	74.8	78.7	83.3	80.5	66.2	77.0
<i>Employment-Population Ratio</i>	49.3	54.9	57.4	64.9	41.1	45.1
<i>Unemployment Rate</i>	5.2	2.8	3.2	2.5	7.8	3.4

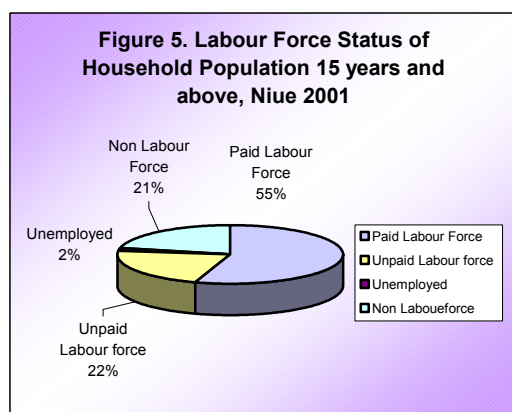


Figure 5 shows Labour force status of household population 15 years and above. About 55 percent is paid labour force whereas 22 percent is unpaid labour force. Unemployed contribute 2 percent of household population, while Non labour force contributes 21 percent of household population. Non labour force includes students, retired persons, and missionaries, etc.

4.3 Occupation

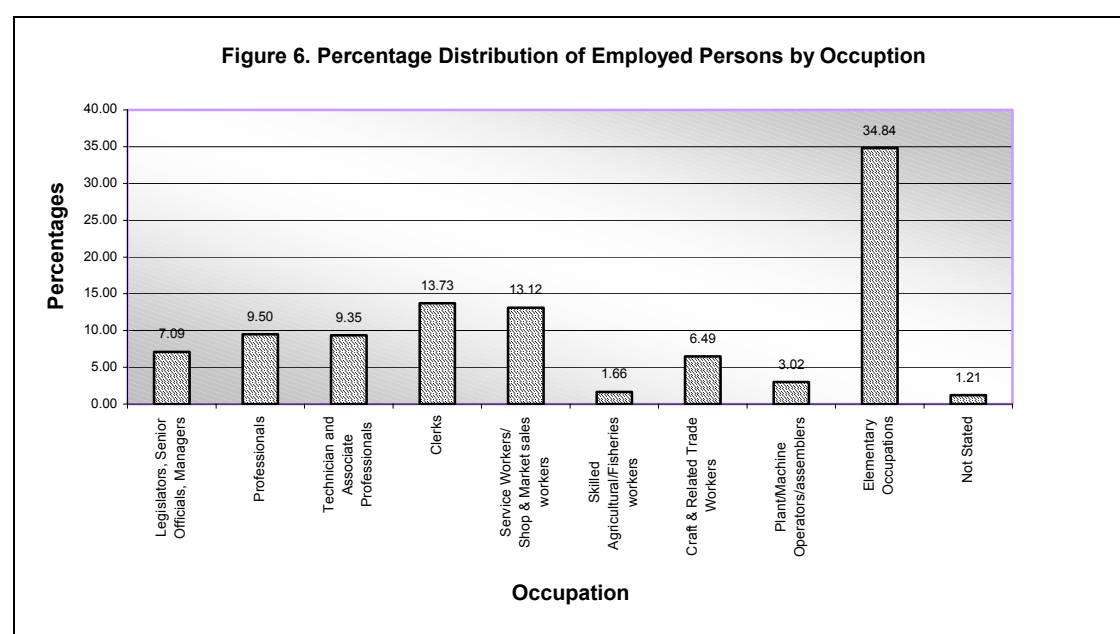
During the 2001 census, the question on occupation was asked of all respondents in the labour force. The data on occupation was coded using a classification system based on the International Classification of Occupation (ISCO) 1988.²

Table A19 presents the occupational status of labour force in Niue in the 2001 Census. The figures are only given for the major occupation groups, (1 digit code). The table shows that among employed persons, those engaged in elementary occupation constitute 34.84 percent and among males and females this percentage is 36.18 and 32.97 respectively, followed by clerks with 13.73 percent for both sexes, 10.85 percent for males and 17.75 percent for females. And then followed by service workers/shop and market sales workers with 13.12 percent for both sexes, 10.59 percent for males and 16.67 percent for females. The others are less than 10 percent. Percentage Distribution of Employed Persons by Occupation and Gender is given in Table A19 and a bar chart for the same is presented in Figure 6.

² See: Report of the International Conference of Labour Statisticians (ICLS), 28 October – 6 November, 1987.

Table A19. Percentage Distribution of Employed Persons by Occupation and Gender

Occupation	Total		Male		Female	
	Num	%	Num	%	Num	%
<i>Total</i>	663	100	387	100	276	100
<i>Armed Forces</i>	0	0	0	0	0	0
<i>Legislators, Senior Officials, Managers</i>	47	7.09	32	8.27	15	5.43
<i>Professionals</i>	63	9.50	34	8.79	29	10.51
<i>Technician and Associate Professionals</i>	62	9.35	37	9.56	25	9.06
<i>Clerks</i>	91	13.73	42	10.85	49	17.75
<i>Service Workers/ Shop & Market sales workers</i>	87	13.12	41	10.59	46	16.67
<i>Skilled Agricultural/Fisheries workers</i>	11	1.66	8	2.07	3	1.09
<i>Craft & Related Trade Workers</i>	43	6.49	32	8.27	11	3.99
<i>Plant/Machine Operators/assemblers</i>	20	3.02	15	3.88	5	1.81
<i>Elementary Occupations</i>	231	34.84	140	36.18	91	32.97
<i>Not Stated</i>	8	1.21	6	1.55	2	0.72



4.4 Industry

During the 2001 census, the question on industry was asked of all respondents in the working labour force. The data on industry was coded using a classification system based on the International Standard Industry Classification (ISIC).

Among employed persons 14.48 percent are working in Public Administration 10.86 percent are working in Construction and the same percentages in Health Social Welfare. Among males, Public Administration constitutes the highest percentage of 13.95 followed by construction 17.31 percent.

Among females, education constitutes the highest proportion with 15.94 percent followed by public administration 15.22 percent. 12.68 percent of females are engaged in health/social welfare. Percentage Distribution of Employed Persons by Industry and Gender is presented in Table A20.

Table A20. Percentage Distribution of Employed Persons by Industry and Gender

<i>Industry</i>	<i>Total</i>		<i>Male</i>		<i>Female</i>	
	<i>Num</i>	<i>%</i>	<i>Num</i>	<i>%</i>	<i>Num</i>	<i>%</i>
<i>Total</i>	663	100	387	100	276	100
Agriculture/Hunting/Forestry	55	8.30	39	10.08	16	5.80
Fishing	5	0.75	5	1.29	0	0.00
Mining/Quarrying	17	2.56	16	4.13	1	0.36
Manufacturing	19	2.87	5	1.29	14	5.07
Electricity/Water/Gas/	27	4.07	23	5.94	4	1.45
Construction	72	10.86	67	17.31	5	1.81
Wholesale / Retail	48	7.24	24	6.20	24	8.70
Hotels / Restaurants	29	4.37	8	2.07	21	7.61
Transport / Storage / Communication	64	9.65	39	10.08	25	9.06
Financing	35	5.28	15	3.88	20	7.25
Real Estate / Rent	3	0.45	2	0.52	1	0.36
Public Administration	96	14.48	54	13.95	42	15.22
Education	63	9.50	19	4.91	44	15.94
Health / Social Welfare	72	10.86	37	9.56	35	12.68
Other	51	7.69	30	7.75	21	7.61
Non profit Services	4	0.60	2	0.52	2	0.72
Not Stated	3	0.45	2	0.52	1	0.36

4.5 Employment Status

In the 2001 census, the question on type of employer was asked of all respondents in the working labour force. The data was coded using a classification system listed on Table A21.

Government service workers with 60.03 percent constitute the largest proportion of the total employed persons followed by self-employed workers with 18.25 percent. While the largest proportion of employed males i.e. 60.98 percent, is constituted to government service workers and also the largest proportion of employed females with 58.70 percent in the same category. Among total employed persons 35.60 percent of males and 24.43 percent of females are engaged in government while 10.86 percent of males and 7.39 percent of females are self-employed. 9.05 percent of males and 8.14 percent of females are constituted in private sector. The Percentage Distribution of Employed persons by Employment Status are shown in Table A21.

Table A21. Percentage Distribution of Employed Persons by Employment Status and Gender

<i>Employment Status</i>	<i>Total Num</i>	<i>%</i>	<i>Male Num</i>	<i>%</i>	<i>Female Num</i>	<i>%</i>	<i>Male%</i>	<i>Female %</i>
<i>Total</i>	663	100	387	100	276	100	58.37	41.63
<i>Government</i>	398	60.03	236	60.98	162	58.70	35.60	24.43
<i>Private Sector</i>	114	17.19	60	15.50	54	19.57	9.05	8.14
<i>Self Employed</i>	121	18.25	72	18.60	49	17.75	10.86	7.39
<i>Other</i>	30	4.52	19	4.91	11	3.99	2.87	1.66

4.6 Annual Gross Income

The 2001 census also asked a question on gross annual income (before tax) of all respondents in the working labour force. The results are summarized in table A22 below.

A little over 53 percent of Niue population earned between 0-4999 New Zealand Dollars annually. This is followed by about 10 percent of the population earning between NZ\$5000-19999, while less than 4 percent of the population earned over NZ\$25000. In general the earnings of men were higher than those for women. Percentage Distribution of Household Population by annual Gross Income in New Zealand Dollars is presented in Table A22.

Table A22. Percentage Distribution of Household Population Age 15 and above by Annual Gross Income (in NZ\$)

<i>Annual Gross Income (NZ\$)</i>	<i>Total</i>		<i>Male</i>		<i>Female</i>	
	<i>Num</i>	<i>%</i>	<i>Num</i>	<i>%</i>	<i>Num</i>	<i>%</i>
<i>Total</i>	1208	100	596	49.34	612	50.66
<i>0-4999</i>	644	53.31	259	21.44	385	31.87
<i>5000-9999</i>	134	11.09	88	7.28	46	3.81
<i>10000-14999</i>	150	12.42	89	7.37	61	5.05
<i>15000-19999</i>	100	8.28	48	3.97	52	4.30
<i>20000-24999</i>	66	5.46	40	3.31	26	2.15
<i>25000-29999</i>	19	1.57	11	0.91	8	0.66
<i>30000-34999</i>	20	1.66	12	0.99	8	0.66
<i>35000-39999</i>	5	0.41	4	0.33	1	0.08
<i>40000-44999</i>	4	0.33	4	0.33	0	0.00
<i>45000+</i>	10	0.83	8	0.66	2	0.17
<i>Not Stated</i>	56	4.64	33	2.73	23	1.90

4.7 Land used for Planting Crops

The 2001 census also asked question on land area used by households to cultivate crops. From this data, the total land area used for planting crops is 1486 hectares. Of the total land area used for planting crops, 612 hectares is used for taro, 290 hectares, 344 hectares and 239 hectares are used for planting coconuts, Kava and Nonu respectively. Land area used for planting taro, coconut, kava and nonu is presented in Table A23. Land area used for planting crops by each village is shown in Table 16, Part II.

Table A23. Land area used (in Hectares) for planting taro, coconuts, kava and nonu

<i>Crops</i>	<i>Land used (in Hectares)</i>
<i>Taro</i>	613
<i>Coconuts</i>	290
<i>Kava</i>	44
<i>Nonu</i>	239
<i>Total</i>	1486

Note: The land used information on tapioca and vanilla was not available from census data.

The census also collected information on vegetables grown on the above land. Table A24 shows that lettuce is the most common vegetables grown in Niue followed by cabbage and the third is tomato. Vegetables grown in each village are shown in Table 17 in Part II.

Table A24. Number of Vegetables grown

<i>Vegetables</i>	<i>Number</i>
<i>Lettuce</i>	2008
<i>Pak_choy</i>	450
<i>Saladeer</i>	782
<i>Tomato</i>	1530
<i>Cabbage</i>	1901
<i>Capsicum</i>	588
<i>Other</i>	1523

Chapter V

5 Household and Housing Characteristics

The 1990 census was a population and housing census. There fore, questions on housing were asked to all household heads. The following information on housing is available:

i. Dwelling type

Enumerators were instructed to record the dwelling type (type of house) of all dwellings. The question contained a list of choices.

ii. Dwelling ownership

Firstly, respondents were asked to report whether they rented or owned their house. If the house was rented, they were asked to state who the house was rented from. The question provided precoded answers:

In addition to the above information on dwelling type and dwelling ownership, the 2001 census also attempted to collect information on a number of other extremely useful items:

i. Number of rooms in the house

Interviewers were instructed to exclude kitchens, bathrooms, storerooms etc.

ii. Source of drinking water

Six (6) precoded answers were provided viz. piped to the household, rainwater tank, well and other. In the case the answer was 'other', a further description was required.

iii. Kind of fuel for cooking

The precoded answers included electricity, gas, kerosene, charcoal, firewood and other. In the case, the answer was 'other'; a further specification was again required.

iv. Source of hot water

The precoded answers included electricity, wood and solar energy, and other fuel. In the latter case a description was once again required.

There were also information on other housing and household characteristics collected from the 2001 census, and are all summarized in this chapter.

Household and Housing Characteristics are important for planners and policy makers to meet demands for housing and for different types, quantities and qualities of dwelling and other accommodation. To access related requirements such as water consumption, electricity supply, access to telephones, waste disposal and general infrastructure, data on household and housing is also needed. That is, household size and composition are important factors in considering the availability of land to build suitable houses needed by the people.

5.1 Household Size

The 2001 census counted 508 private households and the average number of persons per household in Niue is 3.4 people. The household size of 3.4 persons per household in Niue 2001 Population Census was lower than that estimated from the 1997 Population Census of 3.8 persons per household. About 78 people usually residing in Niue were temporarily absent during the census, including these people would increase the average household size to 3.6 household members.

There are outstanding differences in household size by village, ranging from 5.2 persons per household in Vaiea to only 1.5 persons per household in Namukulu. Average Household Size of each village is presented in Table A25.

Table A25. Average household size by Area, Niue 2001

<i>Area</i>	<i>Total HH</i>	<i>Total HH Pop.</i>	<i>Avg. HH Size</i>
<i>Makefu</i>	24	84	3.5
<i>Tuapa</i>	39	129	3.3
<i>Namukulu</i>	8	12	1.5
<i>Hikutavake</i>	21	65	3.1
<i>Toi</i>	10	31	3.1
<i>Mutalau</i>	39	133	3.4
<i>Lakepa</i>	24	88	3.7
<i>Liku</i>	22	73	3.3
<i>Hakupu</i>	55	227	4.1
<i>Vaiea</i>	12	62	5.2
<i>Avatele</i>	38	125	3.3
<i>Tamakautoga</i>	38	125	3.3
<i>Alofi South</i>	115	358	3.1
<i>Alofi North</i>	63	224	3.6
<i>Total</i>	<i>508</i>	<i>1736</i>	<i>3.4</i>

Of the 508 total households, 79.1 percent are family households while the remaining 20.1 percent are non-family households.

The distribution of household by size also changed in 2001 Niue Population Census compared to the 1997 Niue Population Census. In 2001 there was a noticeable increase of the number of household with one or two household members compared to that of 1997 – that is, 28 more single person households were recorded and 11 more households with 2 persons per household. On the other hand, there were 21 less households with more than 7 members in 2001 compared to that in 1997. Overall fewer people lived together per household in 2001 than in 1997, and probably fewer than ever before in Niue's history. Percentage Distribution of Household Size, Niue 1997 and 2001 is presented in Table A26.

Table A26. Percentage Distribution of Household Size, Niue 1997 and 2001

<i>HH Size</i>	<i>Number and Percent of HH</i>			
	<i>1997</i>		<i>2001</i>	
	<i>Num</i>	<i>%</i>	<i>Num</i>	<i>%</i>
<i>1 Person</i>	74	13.6	102	20.1
<i>2 Persons</i>	97	17.9	108	21.3
<i>3 Persons</i>	99	18.2	82	16.1
<i>4 Persons</i>	81	14.9	71	14.0
<i>5 Persons</i>	79	14.5	57	11.2
<i>6 Persons</i>	50	9.2	46	9.1
<i>7 Persons & above</i>	63	11.6	42	8.3
<i>Total</i>	<i>543</i>	<i>100.0</i>	<i>508</i>	<i>100.0</i>

5.2 Household Heads and Relationship to Head of Household

Data on relationship to head of household was established by identifying a head of household who serves as a reference person to whom all other persons in the household at the time of the census are related. This information shows that about 76 percent of all heads of household in Niue were men and 24 percent were women. The female heads of household were never married, widowed, divorced or separated or the heads of single-person households. In general, Niueans referred to the oldest male person living in the household as the head of household, regardless of his ability to economically support the household members.

About 86 percent of all household members belonged to nuclear families. Nuclear families consist of husband, wife and children. 4.1 percent was grandchildren/great-grandchildren of household heads. Other relation constitutes 8.6 percent of all household members and there were no non-related household members.

Table A27. Percentage Distribution of Population by Relationship to Head of Household

<i>Relationship to Head of Household</i>	<i>Male</i>	<i>Female</i>	<i>Total</i>	<i>Male %</i>	<i>Female %</i>	<i>Total %</i>
<i>Head of Household</i>	384	124	508	31.8	10.3	42.1
<i>Spouse</i>	7	266	273	0.6	22.0	22.6
<i>Son/Daughter</i>	136	118	254	11.3	9.8	21.0
<i>Son/Daughter in laws</i>	9	10	19	0.7	0.8	1.6
<i>Grand child/Great Grand Child</i>	22	28	50	1.8	2.3	4.1
<i>Other relation</i>	38	66	104	3.1	5.5	8.6
<i>Not related</i>	0	0	0	0.0	0.0	0.0
Total	596	612	1208	49.3	50.7	100.0

5.3 Dwelling Type

There were three types of dwelling in Niue: house, flat and kitset house. Among 508 household 93.3 percent was house type, 5.3 percent was flat type and only 1.4 percent was kitset house type. Percentage Distribution of Household by Dwelling Type is presented in Table A28.

Table A28. Percentage Distribution of Household by Dwelling Type

<i>Dwelling Type</i>	<i>Number of HH</i>	<i>Percent</i>
<i>House</i>	474	93.3
<i>Flat</i>	27	5.3
<i>Kitset House</i>	7	1.4
<i>Total</i>	508	100.0

5.4 Tenure of Living Quarters

Of the 508 households, 68.3 percent was owned by their occupants, 13 percent was on loan without payment, 7.1 percent was rented or lease, 6.5 percent was mortgage, 3.9 percent of houses was given free with job and only 1.2 percent was rented with nominal fees. Percentage Distribution of Household by Tenure of Living Quarters is presented in Table A29.

Table A29. Percentage Distribution of Household by Tenure of Living Quarters

<i>Tenure of Living Quarters</i>	<i>Number</i>	<i>Percent</i>
<i>Rent or Lease</i>	36	7.1
<i>On Loan without Payment</i>	66	13.0
<i>Free with Job</i>	20	3.9
<i>Pay Norminal Rent</i>	6	1.2
<i>Own</i>	347	68.3
<i>Buying on Mortgage</i>	33	6.5
<i>Total</i>	508	100.0

5.5 Fishing Vessel

The Distribution of Household by Fishing Vessel ownership is presented in Table A30. It shows that 117 out of the 508 households own 156 canoes, 58 households with 70 aluminum dinghy, only one household with 2 inflatable dinghy, 13 households with 14 boats, and 55 households with 84 Outboard motor.

Table A30. Distribution of Household by Fishing Vessels

<i>Fishing Vessels</i>	<i>HH</i>	<i>Num</i>
<i>Canoe</i>	117	156
<i>Aluminum Dinghy</i>	58	70
<i>Inflatable Dinghy</i>	1	2
<i>Boat</i>	13	14
<i>Outboard Motor</i>	55	84

5.6 Household Amenities

About 82.1 percent of the 508 households are fitted with flush toilets, 27.4 percent have water seal toilets, 71.5 percent have sewage concrete septic tanks, 20.9 percent have sewage non concrete water seal, and only 4.5 percent had sewage long drop. All but only 8 households in Niue have electricity power supply while only 2 households own electricity generators. Percentage Distribution of Household by Amenities is presented in Table A31.

Table 31. Percentage Distribution of Household by Amenities

<i>Amenities of Dwelling</i>	<i>Num of HH</i>	<i>Percent</i>
<i>Flush Toilet</i>	417	82.1
<i>Water Seal Toilet</i>	139	27.4
<i>Bathtub</i>	87	17.1
<i>Handbasin</i>	348	68.5
<i>Washing Tub</i>	185	36.4
<i>Shower</i>	432	85.0
<i>Kitchen Sink</i>	376	74.0
<i>Electricity Public Supply</i>	500	98.4
<i>Electricity Own Generator</i>	2	0.4
<i>Sewage Long Drop</i>	23	4.5
<i>Sewage Non Concrete Water Seal</i>	106	20.9
<i>Sewage Concrete Septic Tank</i>	363	71.5

5.7 Main Means of Cooking

Among 508 households, 25.6 percent were reported using electric stove as their main mean of cooking, followed by Gas Stove with 19.3 percent. The percentages of households that used gas elements and open fire are 12.4 and 12.0 respectively. Percentage Distribution of Household by Main Mean Cooking is presented in Table A32.

Table A32. Percentage Distribution of Household by Main means cooking

<i>Main Mean Cooking</i>	<i>Number</i>	<i>Percent</i>
<i>Total</i>	<i>508</i>	<i>100</i>
<i>Electric Stove</i>	<i>130</i>	<i>25.6</i>
<i>Gas stove</i>	<i>98</i>	<i>19.3</i>
<i>Wood Stove</i>	<i>3</i>	<i>0.6</i>
<i>Kerosene Cooker</i>	<i>22</i>	<i>4.3</i>
<i>Charcoal Cooker</i>	<i>14</i>	<i>2.8</i>
<i>Electric Element</i>	<i>33</i>	<i>6.5</i>
<i>Open Fire</i>	<i>61</i>	<i>12.0</i>
<i>Umu</i>	<i>7</i>	<i>1.4</i>
<i>Drum Over</i>	<i>1</i>	<i>0.2</i>
<i>Bench Top oven</i>	<i>43</i>	<i>8.5</i>
<i>Gas Element</i>	<i>63</i>	<i>12.4</i>
<i>Other</i>	<i>24</i>	<i>4.7</i>
<i>Not Stated</i>	<i>9</i>	<i>1.8</i>

5.8 Source of Water Supply

Among 508 household 75.4 percent of them reported that to have piped water from taps in their houses. 72.6 percent had piped from public source to taps outside their houses. It shows that all houses which had public taps inside their houses also had public taps outside them. About 40.9 percent of the houses had water tank fed by rain water. Only 13.6 percent of the household had piped public to water tank. The percentage of households that had water well was only 1.6. Percentage Distribution of Household by Sources of Water Supply is presented in Table A33.

Table A33. Percentage Distribution of Household by Sources of Water Supply

<i>Source of Water Supply</i>	<i>Num. Of HH</i>	<i>Percentage</i>
<i>Piped Public To Taps in House</i>	<i>383</i>	<i>75.4</i>
<i>Piped Public To Taps outside House</i>	<i>369</i>	<i>72.6</i>
<i>Piped Public to Water Tank</i>	<i>69</i>	<i>13.6</i>
<i>Water Tank Fed by Rain Water</i>	<i>208</i>	<i>40.9</i>
<i>Water Well</i>	<i>8</i>	<i>1.6</i>

5.9 Main Means of Hot Water

Among 508 households nearly half of them (ie: 43.3 percent) had no hot water system, 31.1 percent had main mean of hot water by electricity, 10.4 percent by solar energy booster, 6.5 percent by solar energy no booster, 3.5 percent b gas, another 3.5 percent by other fuel and only 1.6 percent had

main mean of hot water system by wood stove. The Percentage Distribution of Household by Main Mean of Hot water is presented in Table A34.

Table A34. Percentage Distribution of Household by Main Means of Hot Water

<i>Main Means Hot Water</i>	<i>Num. of Household</i>	<i>Percentage</i>
<i>Total</i>	<i>508</i>	<i>100</i>
<i>Electricity</i>	<i>158</i>	<i>31.1</i>
<i>Gas</i>	<i>18</i>	<i>3.5</i>
<i>Solar Energy Booster</i>	<i>53</i>	<i>10.4</i>
<i>Solar Energy no Booster</i>	<i>33</i>	<i>6.5</i>
<i>Wood Stove</i>	<i>8</i>	<i>1.6</i>
<i>Other Fuel</i>	<i>18</i>	<i>3.5</i>
<i>None</i>	<i>220</i>	<i>43.3</i>

5.10 Type of Vehicles Owned

There are altogether 134 motorbikes in Niue. Among 508 households 106 households owned one motorbike each, 8 households owned two motorbikes each and 4 households owned 3 motorbikes each. The Island had 16 diesel cars, 307 petrol cars, 49 diesel Truck, 25 petrol cars, 90 diesel vans, 80 petrol vans, 28 diesel pickups, 48 petrol pickups, 5 diesel d/cabs and 6 petrol d/cabs. Distribution of Household and Number of Vehicles Owned by Type of Vehicles are presented in Table A35.

Table A35. Distribution of Household and Number of Vehicles Owned by Type of Vehicles

<i>Type of Vehicles</i>	<i>Total Num Owned</i>	<i>Number of Vehicles Owned/Households</i>											
		<i>0</i>		<i>1</i>		<i>2</i>		<i>3</i>		<i>4</i>		<i>5</i>	
		<i>Num</i>	<i>HH</i>	<i>Num</i>	<i>HH</i>	<i>Num</i>	<i>HH</i>	<i>Num</i>	<i>HH</i>	<i>Num</i>	<i>HH</i>	<i>Num</i>	<i>HH</i>
<i>Motorbikes</i>	<i>134</i>	<i>0</i>	<i>390</i>	<i>106</i>	<i>106</i>	<i>16</i>	<i>8</i>	<i>12</i>	<i>4</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
<i>Diesel Cars</i>	<i>16</i>	<i>0</i>	<i>492</i>	<i>16</i>	<i>16</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
<i>Petrol Cars</i>	<i>307</i>	<i>0</i>	<i>272</i>	<i>179</i>	<i>179</i>	<i>92</i>	<i>46</i>	<i>27</i>	<i>9</i>	<i>4</i>	<i>1</i>	<i>5</i>	<i>1</i>
<i>Diesel Trucks</i>	<i>49</i>	<i>0</i>	<i>462</i>	<i>44</i>	<i>44</i>	<i>2</i>	<i>1</i>	<i>3</i>	<i>1</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
<i>Petrol Trucks</i>	<i>25</i>	<i>0</i>	<i>485</i>	<i>21</i>	<i>21</i>	<i>4</i>	<i>2</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
<i>Diesel Vans</i>	<i>90</i>	<i>0</i>	<i>422</i>	<i>82</i>	<i>82</i>	<i>8</i>	<i>4</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
<i>Petrol Vans</i>	<i>80</i>	<i>0</i>	<i>434</i>	<i>69</i>	<i>69</i>	<i>8</i>	<i>4</i>	<i>3</i>	<i>1</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
<i>Diesel Pickup</i>	<i>28</i>	<i>0</i>	<i>480</i>	<i>28</i>	<i>28</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
<i>Petrol Pickup</i>	<i>48</i>	<i>0</i>	<i>463</i>	<i>42</i>	<i>42</i>	<i>6</i>	<i>3</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
<i>Diesel Dcab</i>	<i>5</i>	<i>0</i>	<i>503</i>	<i>5</i>	<i>5</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
<i>Petrol Dcab</i>	<i>6</i>	<i>0</i>	<i>502</i>	<i>6</i>	<i>6</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>

5.11 Home Improvement

Among 508 households 184 households are reported to renovate in the year 2001-2005. The number of households which were going to renovate in the year 2001, 2002 2003 2004 and 2005 were 12, 86, 42, 23 and 21 respectively. (Table 13)

Among 508 households 41 households were planning to build a new house in the year 2001-2005. Those who were planning to build a new household were going to build 1 household in the year 2001, 11 households in the year 2002, 8 households in the year 2003, 9 households in the year 2004 and 12 households in the year 2005. (Table 13)

Among 41 houses which were planning to build a new house, 25 houses were intending to build in their own villages, 3 houses were not stated their intending of building and 13 houses were intending to build in other villages. Among these 13 houses, 3 from Alofi South were intending to build in Tuapa, 2 houses from Alofi South were intending to build in Hakupu and 1 from the same village were intending to build in Alofi North. (Table 14)

Chapter VI

6 Fertility, Mortality and Migration

6.1 Fertility

The age-sex composition of the population of the country is impacted greatly by its fertility and mortality, unless migration level is very high.

In 2001 Niue Census, two types of information on fertility were collected: lifetime fertility and current fertility. The number of children ever borne was asked for life time fertility. The date of birth of last child was asked to obtain the current fertility. These questions were asked for all women 15 years and above.

The number of children ever borne to a particular woman is an aggregate measure of her lifetime fertility experience up to the moment the data was collected. From this information, we obtain the average parity of the women by age groups.

“Date of birth of last child” collected were converted to “births” in the 12 months preceding the census date. This indirect method to get the births was employed because the direct question on it might result in reporting errors from the misperception of the length of the reference period.

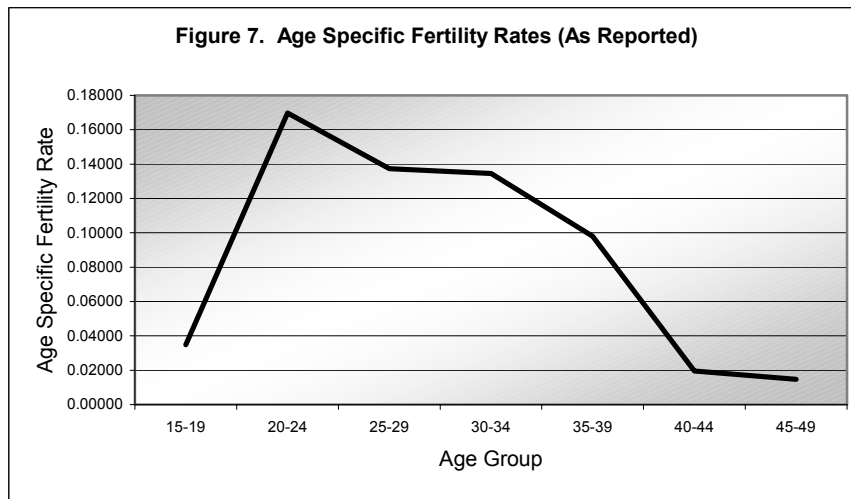
From this information, some direct measures of fertility were calculated and presented in Table A36 and illustrated in Figure 7.

Table A36. Estimated Fertility Rates from Lifetime and Current Data by Five Year Age Groups

<i>Age of Women</i>	<i>Lifetime Average Parity per Woman</i>	<i>Reported Current Fertility Rates</i>
15-19	0.0698	0.0349
20-24	0.4906	0.1698
25-29	1.3333	0.1373
30-34	2.1538	0.1346
35-39	3.3529	0.0980
40-44	3.6471	0.0196
45-49	3.7500	0.0147
<i>Total Fertility Rate</i>		3.0446
<i>MAC</i>		31.2

The Total Fertility Rate derived from the current fertility is 3.04. It is computed as the summation of age specific births rates for a reference period of time. As the age specific birth rates are

presented in five year age group, their sum is multiplied by 5 on the ground that the rate per each age group represents an average rate for an interval of five years. The total fertility rate is conventionally expressed in the rate per woman. Thus, it shows the total number of children who would be borne to a woman while she passes through 35 years of childbearing age, with a given set of period fertility schedule. This rate is a convenient measure of period fertility by itself, but at the same time an important starting point of approach to the reproduction rate.



The principal measures of fertility which can be derived from the number of children ever borne are given below:

- | | | |
|-----|---|------|
| (a) | Gross Fertility Ratio | 2.00 |
| | (Gross Fertility Ratio is the average number of children ever borne to women of childbearing age and above) | |
| (b) | Completed Fertility Ratio | 3.73 |
| | (Completed Fertility Ratio is the average number of children ever borne to women who had reached the end of the childbearing period (i.e. 50 years and above) | |
| (c) | Proportion of childless women by the end of their reproductive span | 0.29 |
| (d) | Average number of children ever borne per woman who has already Borne at least one child | 3.38 |

- (e) Net Fertility Ratio 1.93
(Net Fertility Ratio is average number of children surviving to women
Of childbearing age and above)

6.2 Mortality

Mortality indicators can be estimated using the information collected during the census by calculating the proportion of persons by sex and age group, who have survived until a certain age.

In the 2001 census the only question that related to mortality was the question on the number of children ever borne and still alive (Table 50). In general the proportion of children dead increases continuously by age of mother. This is not true in Niue because of very small size of the data.

6.2.1 Infant Mortality

A very small population with a single data set is not sufficient to calculate reliable infant mortality. Infant mortality rate (IMR) is the number of deaths at age less than one year in relation to every 1000 life births. It is calculated from registered births and deaths. There were 4 infant deaths compare to 136 life births which results in an average infant mortality rate IMR of 29.4 ($4/136 \times 1000$). The IMR of 294 and is very high compare to 1997 census with IMR 175 per 1000 life births.

6.2.2 Life Expectancy

Expectation of life at birth is an average number of years that a member of “cohort” of births would be expected to live if the cohort were subject to the mortality conditions express by a particular set of “age-specific mortality rate.” (Manual X, Indirect technique for Demographic Estimation).

Life expectancy at birth for Niue for sexes, males and females are 70.1 years, 69.8 years and 71.2 years respectively. An abridge life table for both sexes, males and females are presented in Table A37.

Life table functions are as follows:

${}_n m_x$ recorded age specific death rate

$${}_n m_x = \frac{{}_n d_x}{P_x}$$

where, ${}_n m_x$ = the mean death rate for the age interval x for 5 years

${}_n d_x$ = the number of deaths occurred in the age interval x during the year, and

P_x = the population in the age interval x in the middle of the year

$${}_n q_x$$

probability of dying for the age interval x

$${}_n q_x = \frac{{}_n^* m_x}{2 + {}_n^* m_x}$$

l_x the number of survivors at exact age x originated from the “radix” of 100,000 at the beginning

$${}_n d_x = l_x * {}_n q_x$$

$$- {}_n d_x = l_{x+n}$$

${}_n L_x$ the number of years lived in an age interval

$$L_0 = (0.3 * l_0) + (0.7 * l_1), {}_4 L_1 = (1.9 * l_0) + (2.1 * l_1), {}_5 L_x = 5 * (l_x + l_{x+n}) / 2$$

$${}_{\infty} L_x = l_x / {}_{\infty} m_x$$

T_x the total number of years to be lived after exact age x

$T_x = \sum {}_n L_x$ for the age interval and all subsequent intervals

$e_x^0 = T_x / l_x$ expectation of life (or) an average length of life expectancy at exact age x

Table A37 Abridge Life Table

X Age	deaths	${}_nm_x$	${}_nq_x$	${}_nl_x$	${}_nd_x$	${}_nL_x$	T_x	e^0_x
Males								
0	1	0.06667	0.06452	100000	6452	95484	6975822	69.76
1	0	0.00000	0.00000	93548	0	374194	6880338	73.55
5	0	0.00000	0.00000	93548	0	467742	6506144	69.55
10	0	0.00000	0.00000	93548	0	467742	6038402	64.55
15	0	0.00000	0.00000	93548	0	467742	5570660	59.55
20	0	0.00000	0.00000	93548	0	467742	5102919	54.55
25	0	0.00000	0.00000	93548	0	467742	4635177	49.55
30	0	0.00000	0.00000	93548	0	467742	4167435	44.55
35	0	0.00000	0.00000	93548	0	467742	3699693	39.55
40	0	0.00000	0.00000	93548	0	467742	3231951	34.55
45	0	0.00000	0.00000	93548	0	467742	2764209	29.55
50	0	0.00000	0.00000	93548	0	467742	2296467	24.55
55	0	0.00000	0.00000	93548	0	467742	1828725	19.55
60	1	0.02273	0.10753	93548	10059	442595	1360983	14.55
65	0	0.00000	0.00000	83489	0	417447	918389	11.00
70	0	0.00000	0.00000	83489	0	417447	500941	6.00
75	0	0.00000	1.00000	83489	92792	83494	83494	1.00
Females								
0	1	0.04762	0.04651	100000	4651	96744	7122940	71.23
1	0	0.00000	0.00000	95349	0	381395	7026196	73.69
5	0	0.00000	0.00000	95349	0	476744	6644801	69.69
10	0	0.00000	0.00000	95349	0	476744	6168056	64.69
15	0	0.00000	0.00000	95349	0	476744	5691312	59.69
20	0	0.00000	0.00000	95349	0	476744	5214568	54.69
25	0	0.00000	0.00000	95349	0	476744	4737824	49.69
30	0	0.00000	0.00000	95349	0	476744	4261080	44.69
35	0	0.00000	0.00000	95349	0	476744	3784335	39.69
40	0	0.00000	0.00000	95349	0	476744	3307591	34.69
45	0	0.00000	0.00000	95349	0	476744	2830847	29.69
50	0	0.00000	0.00000	95349	0	476744	2354103	24.69
55	0	0.00000	0.00000	95349	0	476744	1877359	19.69
60	1	0.02041	0.09709	95349	9257	453601	1400615	14.69
65	0	0.00000	0.00000	86092	0	430458	947013	11.00
70	0	0.00000	0.00000	86092	0	430458	516555	6.00
75	0	0.00000	1.00000	86092	92792	86097	86097	1.00
Both Sexes								
0	2	0.05556	0.05405	100000	5405	96216	7013926	70.14
1	0	0.00000	0.00000	94595	0	378378	6917709	73.13
5	0	0.00000	0.00000	94595	0	472973	6539331	69.13
10	0	0.00000	0.00000	94595	0	472973	6066358	64.13
15	0	0.00000	0.00000	94595	0	472973	5593385	59.13
20	0	0.00000	0.00000	94595	0	472973	5120412	54.13
25	0	0.00000	0.00000	94595	0	472973	4647439	49.13
30	0	0.00000	0.00000	94595	0	472973	4174466	44.13
35	0	0.00000	0.00000	94595	0	472973	3701493	39.13
40	0	0.00000	0.00000	94595	0	472973	3228520	34.13
45	0	0.00000	0.00000	94595	0	472973	2755547	29.13
50	0	0.00000	0.00000	94595	0	472973	2282574	24.13
55	0	0.00000	0.00000	94595	0	472973	1809601	19.13
60	2	0.02151	0.10204	94595	9653	448842	1336628	14.13
65	1	0.01333	0.06452	84942	5480	411010	887787	10.45
70	0	0.00000	0.00000	79462	0	397310	476777	6.00
75	3	0.05455	1.00000	79462	92792	79467	79467	1.00

6.3. Migration

The crude net migration rate can be obtained by applying the corresponding rates in the inter-censal period to the balancing equation as follows:

$$\text{Population Growth}_{1997-2001} = \text{CBR} - \text{CDR} + \text{Net Migrants}$$

Therefore

$$\begin{aligned}\text{Net Migrants} &= \text{Population Growth}_{1997-2001} - \text{CBR} + \text{CDR} \\ &= -38 - 18.5 + 7.8 \\ &= -48.7\end{aligned}$$

(Births, deaths, net-migration and overall population change between 1997-2001 ie. Inter-censal period) is presented in Table A38.

Table A38. Births, deaths, net-migrants and overall population change between 1997-2001

	<i>Total Number (inter-censal period 1997-2001)</i>	<i>Average Annual Number (inter-censal period 1997-2001)</i>
<i>Births</i>	116	29.0
<i>Deaths</i>	63	15.8
<i>Net Migration</i>	-353	-88.25
<i>Overall Change</i>	-300	-75

6.3.1 Population Movement during Inter-censal Period

Of the population 15 years and above, 931 persons were estimated not to be moving anywhere in the intercensal period (ie: 1997-2001). Sixty seven (67) persons were found to have moved between villages. Among these 67 persons, about one third of them moved from other villages to Alofi South. Similarly, 206 persons moved into Niue from overseas during intercensal period. And about one third of them were residing in Alofi South. The population distribution by place of residence in 1997, Gender and Place of Enumeration are presented in Table A39. The details of movement between villages and from overseas are shown in Table 43(Part II).

Table A39. Population Distribution by Place of Residence in 1997, Gender and Place of Enumeration

Place of Residence (in 1997)	Place of Enumeration														Total
	Makefu	Tuapa	Nam akulu	Hikuta vake	toi	Mutalau	Lakepa	Liku	Hakupu	Vaiea	Avatele	Tamak autoga	Alofi south	Alofi North	
<i>Total</i>	63	93	12	43	25	96	66	49	138	40	88	91	244	160	1208
<i>This Village</i>	45	81	6	40	22	72	57	43	117	20	68	85	149	126	931
<i>Other Villages</i>	6	2	4	2	1	4	3	0	4	2	7	3	24	5	67
<i>Overseas</i>	11	10	2	1	1	19	5	6	17	18	13	3	71	29	206
<i>Not Stated</i>	1	0	0	0	1	1	1	0	0	0	0	0	0	0	4
<i>Males</i>	35	43	7	18	13	46	34	25	67	27	40	43	124	74	596
<i>This Village</i>	24	36	3	18	12	33	29	20	57	13	31	42	81	60	459
<i>Other Villages</i>	3	1	2	0	0	3	2	0	3	1	3	0	11	1	30
<i>Overseas</i>	7	6	2	0	0	10	3	5	7	13	6	1	32	13	105
<i>Not Stated</i>	1	0	0	0	1	0	0	0	0	0	0	0	0	0	2
<i>Females</i>	28	50	5	25	12	50	32	24	71	13	48	48	120	86	612
<i>This Village</i>	21	45	3	22	10	39	28	23	60	7	37	43	68	66	472
<i>Other Villages</i>	3	1	2	2	1	1	1	0	1	1	4	3	13	4	37
<i>Overseas</i>	4	4	0	1	1	9	2	1	10	5	7	2	39	16	101
<i>Not Stated</i>	0	0	0	0	0	1	1	0	0	0	0	0	0	0	2

6.3.2 Preference of Living

Among Population 15 years and above, more than half of them would prefer to live in their own villages in the year 2006. More than one sixth of them prefer to live in Australia, while only 76 persons preferred to live in New Zealand.

Of the male population 15 years and above, more than three fifth preferred to live in their own villages in the year 2006, while nearly one fifth preferred to live in Australia and only 53 males 15 years and above were prefer to live in New Zealand in the year 2006.

Among female population, more than half of them would prefer to live in their own village in the year 2006. More than one sixth preferred to live in Australia in the year 2006 and only 33 females preferred to live in New Zealand. Population Distribution by Preference of living in the year 2006 is presented in Table A40.

Table A40. Population Distribution by Preference of living in the year 2006

Preference of Living	Total	Male	Female
Total	1208	596	612
<i>This Village</i>	739	362	377
<i>New Zealand</i>	76	43	33
<i>Australia</i>	231	113	118
<i>Fiji</i>	18	12	6
<i>Tonga</i>	3	2	1
<i>Don't Know</i>	125	57	68
<i>Other Pacific</i>	2	1	1
<i>Other North American countries</i>	1	0	1
<i>United Kingdom</i>	1	0	1
<i>Japan</i>	1	0	1
<i>Not Stated</i>	11	6	5

Overall Implication for Planning – for consideration by planners and policy makers

- ❖ Niue has a negative population growth rate 3.8%. Planners and Policy makers need to be aware of this and the Government needs to establish economic and social development to attract people back to Niue. People basically love their home land, many leave because of socioeconomic opportunities and expectations outside of Niue.
- ❖ The country's age structure is an important implication for overall development of the country as well as for planners, policy makers and researchers. Age structure can effect socio-economic development of the country.
- ❖ The number or percentages of infants and young children, which is about 8.7% of the population, are needed to establish child health programmes, including immunisation.
- ❖ To assist future plans on education, the size of school-aged population, which is about 30% of the population, is an important indicator of the need.
- ❖ It has a big impact on population by knowing the number of women at childbearing age, which is 412 according to 2001 Niue Population and Housing Census, gives some crude idea of future population growth.
- ❖ Data on working age population with 56% is an important indicator for future income generation or employment creation endeavors.
- ❖ Information on young adult population provides the picture planners need to be able to plan for the provision of appropriate services for them.
- ❖ Information on the elderly population is needed to calculate future expenditure on pension entitlements from Community Affairs and can estimate budget for future.
- ❖ As the number of births today affects the school age population in the next five or six years and it also affects the working age population in the next 15 years.