

**HOME ALONE: THE EFFECTS OF OUT-MIGRATION
ON NIUEAN ELDERS' LIVING ARRANGEMENTS
AND SOCIAL SUPPORTS**

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MIGRATION IS AN ubiquitous and powerful force that has long influenced the size and composition of Pacific populations. Migration is both a response to and a cause of economic change and modernization in Oceania (Ahlberg and Levin 1990; Cole and Parry 1986; Connell 1990; Fawcett and Carino 1987; McCall and Connell 1993). The general impact of migration on the demography and economy of Pacific societies has been examined extensively (e.g., Cole and Parry 1986; Connell 1990; McCall and Connell 1993). With respect to a specific subpopulation--the elderly--the impact of migration has received little direct attention, but some passing commentary (e.g., James 1993; Macpherson 1990; White 1990).

Presented here is a study of demographic change on Niue, a small Polynesian island in the southwestern Pacific. Two decades of massive, sustained migration from Niue has resulted in around two-thirds of the population living outside the country, primarily in New Zealand. Migration has had a dramatic effect, not just on the composition of the population remaining on the island but also on the social integration of the elderly, most specifically on the amount and type of social support available to people in old age.

Social Gerontology and the Pacific

As a distinct area of interest within the social sciences, social gerontology began to take shape in the 1940s. A basic issue that has preoccupied social

gerontology for decades is the adjustment or adaptation of people to age roles, and the determinants and consequences of this. Comparative studies by anthropologists played a key role in the formation of social gerontology. Ralph Linton's article on age and sex (1942) and Leo Simmon's *The Role of the Aged in Primitive Society* (1945) were seminal works. Both argued that the status of the aged varies among societies and that allocation of resources to the elderly is negatively related to the level of technological and occupational development, that is, to level of modernization. Later anthropologists argued that cultural values are as important as technology or economy in determining resource allocation in old age. Clark and Anderson (1967), for example, say that cultures that express a preference for youth, small nuclear families, productivity, individualization, and independence produce very different social opportunities in old age than do cultures (such as Pacific cultures) that emphasize alternate values. Anthropologists of aging continue to stress the importance of cultural values for understanding the social position of the elderly, at the same time acknowledging the importance of history and social organization (e.g., Amoss and Harrell 1981; Silverman 1987; Sokolovsky 1990).

The Elderly in Pacific Societies

While the past decade has seen a great increase in the number of publications relating to the aged in various Pacific societies, these works still comprise a relatively narrow body of literature. Generally, only two main arenas with respect to aging or the elderly have been addressed: namely, the epidemiology of disease and disability, and social structure. Each of these arenas has an influence on demography, affecting the size, composition, and distribution of populations.

Epidemiological studies report significant demographic change in the size and composition of Pacific societies. Decreases in mortality and increases in life expectancy are occurring in many nations (Newell 1983; Taylor, Lewis, and Levy 1989; Taylor, Lewis, and Sladden 1991) such that people aged 65 years and over now comprise an increasing proportion of the population, more than the 4 to 5 percent typical of Third World nations (Hoover and Siegel 1986). This has been accompanied by a pan-Pacific epidemiologic change, away from acute, infectious disorders towards greater prevalence of chronic, degenerative conditions (Baker, Hanna, and Baker 1986; Barker 1988, 1989, 1990; Finau, Prior, and Evans 1982; Manton, Myers, and Andrews 1987; Taylor, Lewis, and Levy 1989; Taylor, Lewis, and Sladden 1991). Such shifts in disease patterns mean that people are not just living longer but are living longer while becoming more physically or

mentally impaired or disabled. At some point, impairments or disabilities become severe enough to require assistance or caregiving from others.

Anthropological and sociological interest in Pacific elderly has had three primary foci: (a) actual and perceived social status and role changes, including gender differences with respect to these; (b) intergenerational relations and changes therein; and (c) the effects of socioeconomic change on social status and role (Barker 1990; Counts and Counts 1985; Donner 1987; Holmes 1972; Holmes and Holmes 1987; Holmes and Rhoads 1987; Maxwell 1970; Nason 1981; Pearson 1992; Rhoads 1984a, 1984b; Rubinstein 1986; Zimmer 1987). On the whole, this literature reports that although the specific roles and activities assigned the elderly are undergoing reevaluation by younger members of Pacific societies and being changed by economic development, as a social group the elderly generally are still accorded high status and respect. This social-science literature overlaps to some degree with demographic interests, yet the effect of population change on the social institutions involving the elderly has not yet been extensively examined (Martin 1989).

Modernization and the Elderly

The relationship among family, household structure, economy, and social change (modernization) has long been a topic of central interest in Western social science (Hauser 1976; Martin 1989; Simmons 1945). Most theorists agree that modernization changes household and family structure and thereby the social integration or status of the elderly, but the exact nature of such change has been intensely debated.

Modernization is associated with industrialization, urbanization, economic development (frequently involving increased female participation in the labor force) and commodification, bureaucratization, education, secularization, and migration--in short, with mass society (Hauser 1976; Silverman 1987:314-319). Small, flexible, mobile, nuclear families are supposedly better suited to modernized societal conditions than are large, multigenerational extended families. From classic scholars such as Durkheim and Weber through to contemporary social scientists, such as Burgess (1960) and Cowgill (1974; Cowgill and Holmes 1972), theorists depict the process of modernization as having a negative effect on the elderly--extruding them from large extended families, reducing their social statuses, decreasing their control over resources, and diminishing their economic, political, and social roles.

Critics of modernization theory argue that this portrayal pays insufficient attention to the history, complexity, and diversity of local conditions that

generate, among other things, household and family form (Aschenbaum 1982; Aschenbaum and Steams 1978; Foner 1984; Goldstein and Beall 1981; Palmore 1975; Palmore and Manton 1974). These commentators note that in many societies elderly people who continue to command key resources (be they material, social, or supernatural) often maintain a high social status despite changing economic conditions (Silverman 1987). Central among the social resources at an elder's disposal are other people: political leaders, family members, distant kin, and neighbors. Thus, examination of the living arrangements of the elderly and the social resources at their command is a way of assessing the degree of social integration of the elderly and the impact of modernization.

Social Support: Formal and Informal

Individuals who live longer than their forebears but in a state of declining health are liable to have personal, physical, and social problems in old age, especially in a bureaucratized society with changing socioeconomic conditions. Societal adjustments, in both the public and private sectors, are needed to address these problems. Among governmental or public sector programs designed to offset the deleterious effects of modernization on the aged, the more important programs address income maintenance, housing, and health care (Hauser 1976).

Public sector programs are frequently referred to as formal services. They are accompanied by largely invisible but nonetheless essential private sector or informal services. Primary among these is social support, usually from family. The appropriate ratio of formal to informal services for the elderly and eligibility to receive publicly provided services are major and perennial components of the debate over public welfare policies.

Attenuation of the extended family system is unlikely in modernizing nations where the birth rate remains high (Hauser 1976). The informal social support system available to the elderly is believed to be stable because high fertility forestalls or offsets other potential changes in family organization. Most Pacific societies fit a high fertility profile. In advanced old age or in the event of increasing physical or mental frailty, then, older Pacific adults should still have access to well-functioning informal social support systems, that is, to people capable, willing, and able to provide care. This assumption about the continued availability of family, however, does not consider the impact of migration or demographic change.

A situation such as that on Niue, where out-migration has been severe and sustained, immediately calls into question the adequacy of this assumption about the elderly's access to informal social support. In the face of

extensive demographic change, do elderly people continue to have access to informal social support, to family care? This central question underlies the analysis presented in this article.

On Niue, migration and modernization go so closely hand-in-hand that it is impossible to disentangle their effects. Modernization--socioeconomic and political change--was both an incentive for and a response to migration. And migration resulted in well-documented demographic change. Rather than examining modernization or migration per se, I look at demographic change and its effects on social support.

Methods

presented first is an overview of Niue and a brief history of its demography, particularly with respect to the aged. Then comes a detailed look at population changes between 1976 and 1986, including regional differences. An account of Niuean public sector responses to the plight of the elderly is followed by an in-depth examination of the availability and use of informal social supports. Investigation is made not just of household size and composition and of provision of care to the frail elderly, but also of regional differences and the impact of out-migration.

The analysis presented here gives a picture of Niue as it was during the period 1985-1986. Since then, socioeconomic change has both accelerated and changed direction. The island experienced a severe hurricane that destroyed many agricultural and other plans for economic advancement. The death of the premier, Sir Robert Rex, has resulted in a change in political leadership. Despite these events, though, life on Niue and the social processes discussed here continue in the same general vein as before.

Data come from several sources. Whenever data from published sources are used, an acknowledgment is made; unreferenced original data come from my examination of official records, surveys, or field notes.

Examined were a variety of published and unpublished government documents, historical and archival reports, and medical records, available on Niue or in New Zealand. Official Niuean census reports for 1976, 1981, 1984, and 1986 are major sources of information (Niue Government 1980, 1985, 1988). Data collected from Niue hospital for the period 1977-1982 are also presented.

Individual and household level demographic data were acquired in a formal survey of the health and well-being of Niuean elderly. A questionnaire was used to assess the living situation and social support available to a randomly selected sample of 50 percent of the Niueans aged 65 years or over on the island in October and November of 1985. Discussion of self-reported

health status and physical functioning of this elderly sample has appeared previously (Barker 1989); detailed demographic findings are reported here.

Twelve months of anthropological field research on the island in 1982 and 1983 generated much documentary, observational, and interview material (see Barker 1985, 1988, 1990). Although this research focused on an entirely different age group (on children), it was hard to overlook the elderly. Very often when I asked about children's health or welfare issues, people would breezily reply that children weren't a problem, but what were they going to do about their "oldies" (a term Niueans sometimes use to refer to older family members)? So, despite having many observations, notes, and informal interview comments about old people that enrich the documentary evidence, a sustained, systematic ethnography of older people's lives is lacking. Ethnographic research is necessary to answer many of the questions generated by this article. For example, what do these demographic changes mean to older people and to other Niueans? What is the nature of the interaction between old and younger people? Who actually does what for whom, when, where, and how often?

Answers to these and other important questions await research focused on such topics. This article, however, suggests what kinds of social processes are taking place and, therefore, are in need of special attention.

There is a general methodological caveat. In several distinct yet related ways, age is a problematic concept in this article.

The first way in which age is problematic is that age 65 years or above has been chosen as the marker of old age. Niueans would not necessarily agree with this choice. For them, old age is a matter of demeanor, ability, activity, and how socially engaged an individual is, rather than a numerical category (see also various chapters in Counts and Counts 1985). I have used the age 65-plus mark, however, because it is the most widely used marker in social gerontology, and using a standard convention makes comparisons easier. Choosing any other marker (e.g., age 60) would change certain details but not the overall shape or nature of findings in this study.

A second but related point is that accurate attribution of chronological age, especially old age, is difficult not just for Niueans but for all Polynesians. Old people alive now were born before birth registration was mandatory and before the Western system of reckoning dates was well known. Moreover, the only birthdays widely or publicly celebrated are the first and twenty-first. Celebration of first birthdays seems to have an origin in traditional times whereas recognition of twenty-first birthdays is a fairly recent importation from the Western world. Thus, many older people do not know their exact chronological age but estimate it by matching memory with particular historical events.

Just as Rubinstein described for another small Pacific population, the

Maloese in Vanuatu (1986), for Niueans aging is an individual rather than a group phenomenon. On Niue, social groups are distinguished primarily on the basis of gender and village affiliation. Except for children, age is not a salient basis on which to distinguish social groups. Unlike children, who are talked about as constituting a group, the aged do not make up a cohesive category in the thoughts of Niueans. Niueans know individual older people and how well or poorly they are doing, but they do not have a sense of there being a common process of aging applied to a group of people.

For Polynesians, too, age is less important than ability, for children as well as adults. Attention is paid more to whether a person is performing any particular role correctly than to his or her age (see, e.g., Rubinstein 1986). Further, age relative to other people and not age in some absolute chronological sense determines behavior. Thus, to understand deference and command behaviors, it is more important to know who is older or younger than whom than to know exact ages.

The social status of "elder" is achieved by all mature adults long before they reach chronological old age. Thus, civic "elderness" precedes numerical "elderliness" so that the role of elder is well established and much practiced well before age 65. Chronological old age, however, is a highly respected status, for "old-elders" are wise and experienced as well as politically powerful. Just as there is a tendency to elevate into "elder" status young adults who achieve precociously certain markers of elderhood (producing children, receiving university degrees, holding certain kinds of public office), so there is a tendency to inflate the chronological age of older elders. Combining civic "elderness" with chronological "elderliness" is a mark of respect.

Age inflation was a problem encountered, for example, in hospital records where a few older people with readmissions were given different ages at each admission (Barker 1988). Actual age, confirmed through discussion with the person and his or her family, or from other records, was usually within ten years of the alleged age. It seemed that more inflation took place of men's than of women's ages.

This report refers to age as if it were unproblematic. It must be kept in mind, however, that "old age" as used herein is a convention and an imprecise attribute, and that the idea that the elderly constitute a distinct social group is a concept fundamentally foreign to Niueans.

Niue Island and Its Demographic History

An isolated, large raised island, some 600 kilometers south-southeast of Samoa and 500 kilometers east of Tonga, its nearest neighbors (Figure 1), Niue perches atop steep 75-meter-high cliffs rising out of deep ocean.

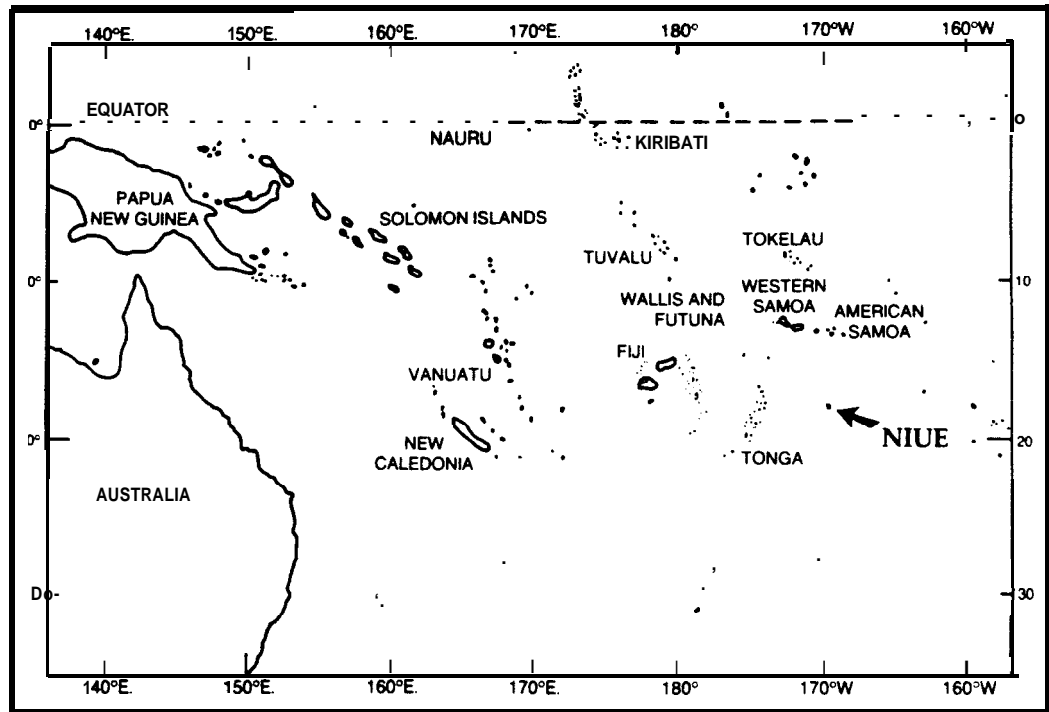


FIGURE 1. **Location of Niue island.**

Despite a lack of surrounding reefs or lagoons, fishing is an important supplemental activity to subsistence slash-and-burn agriculture. Principal crops are taro, tapioca, yam, sweet potato, and banana. The shallow soil, nestled in tiny pockets between jagged coral pinnacles, is fertile though difficult and labor-intensive to till. Secondary forest and bush still cover some 75 percent of the total land area of 260 square kilometers, providing important resources for continued hunting of pigeon, fruit bat, and land crab, and for the gathering of fern shoots. Situated on the edge of a hurricane belt, Niue is occasionally devastated by high winds and torrential rains. Lacking streams or ponds, the island is subject to periodic drought. Roof catchment and artesian bores provide water for domestic use.

Though its myths, prehistory, and early contact history are like those of neighboring states, Niue has a distinct language and contemporary history (Loeb 1926; Ryan 1977; Smith 1983). Daily life is similar to that of other Western Polynesian societies, although Niue has a more flexible social hierarchy with no hereditary chiefs, considerable egalitarian values, a strong work ethic, and an emphasis on individual achievement (Barker 1985; Ryan 1977; Pollock 1979).

There are 13 coastal villages situated on the main perimeter road. More villages are located on the leeward (west) than on the windward (east) coast

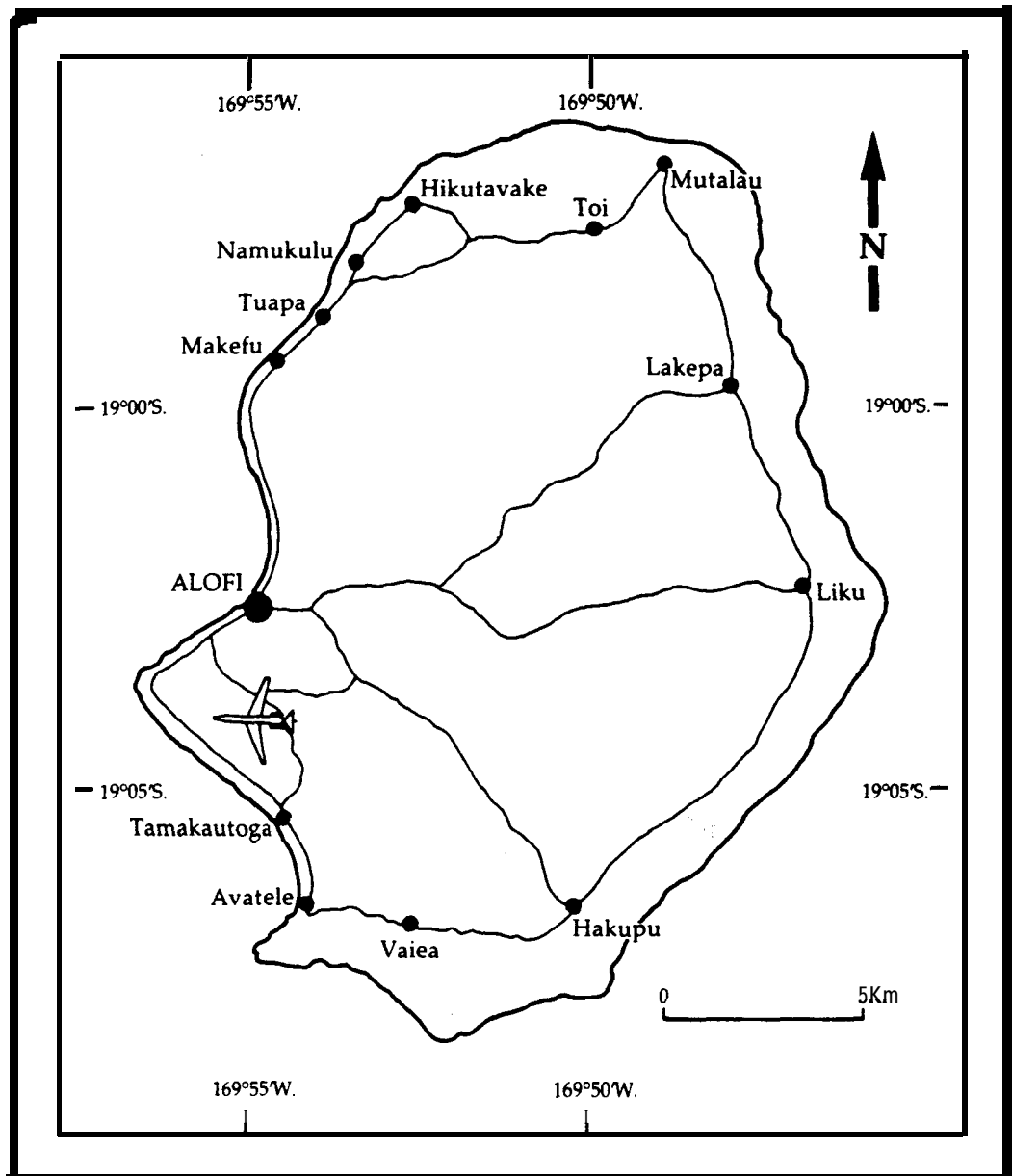


FIGURE 2. Niue island and its villages.

(Figure 2). The church is a central feature of life in the villages, not merely as a focus for religious activity but also as a fundamental institution in the social, political, and recreational arenas.

Samoan missionaries settled on Niue in 1846, the first European missionary not arriving until 1861. Although Cook visited Niue during his second voyage in 1774, Europeans did not proclaim sovereignty over this island until 1900 when Britain formally annexed it, handing it over the next year to New Zealand administration. The next major constitutional change took

place in 1974 when Niue became independent in free association with New Zealand, which remains responsible for providing Niueans with citizenship, for defense, and for foreign relations (Chapman 1976; Niue Government 1982b).

Niue's economy is unlike that of most neighboring Pacific nations, having recently shifted from being based primarily on agriculture to being heavily reliant on the provision of government services (Macpherson 1990:111). Over 75 percent of the adult population works for the Niuean government, for wages or salary (Connell 1983:6). Some cash cropping of passion fruit, limes, taro, and coconut for export as coconut cream and as copra provides additional money. Wages go toward the construction of hurricane-proof housing and the purchase of durable consumer goods, such as motorcycles, refrigerators, and washing machines (Pollock 1979). Niue thus enjoys a high standard of living compared to its nearest Pacific neighbors (Connell 1983).

At independence in 1974, Niue inherited a well-developed service and welfare infrastructure. In 1982-1983, the island had 130 kilometers of all-weather roads, an international airport with one flight a week to and from Western Samoa, satellite telecommunications with the wider world, a local radio station, and piped water and electricity available to all households. There were six schools, five elementary and one secondary. A 20-bed hospital was the center for all medical, dental, and pharmaceutical services.

Niue has been inhabited since ca. 120 B.P., colonized intermittently by successive waves of voyagers, most likely from Tonga and Samoa (Niue Government 1982b; Trotter 1979). The island has probably never supported a population greater than 5,000, because of the difficult terrain, the arduous nature of agriculture, constant warfare between settlements in the pre-European-contact period, endemic disease, and drought and hurricanes with resulting famines (Bedford, Mitchell, and Mitchell 1980).

Although periodic epidemics swept across the island throughout the last half of the nineteenth and the early part of the twentieth centuries, causing mortality rates to rise, there was no sustained decline in total population. An 1861 census by European missionaries Lawes and Pratt showed a total population of 4,700 (Niue Government 1988). Official censuses were first conducted by the New Zealand administration in 1901 and thereafter at five-year intervals, producing more high-quality population data than for any other Pacific nation (Bedford, Mitchell, and Mitchell 1980). Because of the small numbers involved and severe chance fluctuations, analysis of these data is difficult.

Between 1900 and 1930 Niue's population fluctuated around the 4,000 mark. From 1930 to 1960 slow but consistent growth was recorded, reaching a total population of 5,194 by 1966 (Niue Government 1980, 1988). Pop-

ulation loss due to migration was slight until 1970. Since then, permanent out-migration has been massive and continuing, despite persistent efforts by the Niuean government to entice Niueans back to the island. Unlike its neighbors, Niue's greatest recent worry has been depopulation, not overpopulation.

Temporary out-migration by youth for work was a common feature of Niuean life during the late nineteenth and early twentieth centuries (Niue Government 1982b, 1988). A census in 1884 revealed a total population of 5,070 on the island--and another 503 married men who were temporarily absent as contract laborers (Niue Government 1988). Population movement in the latter half of the twentieth century, however, is quite different. In each of the three five-year intercensal periods between 1971 and 1986, Niue lost a large proportion--nearly one-fourth, 23 percent--of its population. Between 1976 and 1981, the total population on Niue dropped by one-third (34 percent). This has been mainly due to permanent out-migration of unmarried youth and of adult married couples with young children (Bedford, Mitchell, and Mitchell 1980; Niue Government 1985, 1988). New Zealand has been the primary destination of Niuean migrants, who successfully occupy particular niches in the work force (Larner and Bedford 1993; Walsh and Trlin 1973). Smaller groups of Niuean migrants are also to be found in other Pacific societies, particularly Tonga, Western Samoa, and the Cook Islands (Rarotonga).

Analysts have pointed to several factors to explain the timing of these extreme levels of recent out-migration, why they did not occur until 1970. The first factor was pent-up demand for transport off the island. After years of negotiation and work, an airport was opened in 1971. Air transport was able to take from the island people who for a long time had wanted to leave but been unable to do so. The once-a-week flight was able carry many more passengers off-island than could the heavily overbooked monthly cargo steamer of former times (Bedford, Mitchell, and Mitchell 1980). A second factor was the devastation wrought by hurricanes in 1959 and 1960. Another factor was independence in 1974. Intense political factionalism, exacerbated by Niuean values of individual achievement and egalitarianism, and reports from migrants of an easier life in New Zealand, led to continued out-migration (Bedford, Mitchell, and Mitchell 1980; Chapman 1976; Niue Government 1985, 1988).

Other demographic change has occurred in recent years. The pattern of disease on Niue has changed to reflect greater occurrence of chronic disease, mortality rates have dropped, fertility rates have remained steady and high, and Niuean life expectancy has risen. When compared to migration, however, Bakker argues that the impact on population structure of these

demographic changes has been relatively unimportant (1980). More than any other demographic process, migration has affected the structure and composition of the contemporary Niuean population.

Effect of Migration on the Elderly

Between 1976 and 1986, the *number* of elderly people (those aged 65 or more years) on Niue dropped by 69, from 247 to 178 individuals. This decline was due mainly to deaths ($n = 52$ in the period 1978-1982 [Taylor, Nemaia, and Connell 1987]) and to the nonadvancement of late middle-aged people into the old age categories because they had moved off-island. Migration by the elderly themselves played a minor role. Between 1976 and 1981, 12 people aged 65 or more years migrated from Niue to New Zealand (Niue Government 1988), 3 being transferred to New Zealand for specialist medical treatment (Barker 1988).

A more important effect of permanent out-migration by youth and families, however, has been a steady rise in the *proportion* of elderly in the island population. Between 1976 and 1986, the proportion of elderly rose by 1.7 percent. In 1986, the 178 people aged 65 years or above comprised 8.1 percent of the total population of 2,199 Niueans (Niue Government 1988). This is very high compared to the proportion of elderly commonly found in underdeveloped Third World nations, which generally ranges between 3 and 5 percent (Hauser 1976; Hoover and Siegel 1986).

Aged Dependency

One indicator of the impact of the increasing proportion of elderly is aged dependency, a measure of how many older people have to be supported by economically productive younger adults (that is, people aged 65 years or above per 100 people aged 15 to 64 years). In 1986, aged dependency on Niue reached 15.3. Again, this is very high for an underdeveloped nation, nearly three times the ratio commonly found in Third World nations (Hoover and Siegel 1986), and an increase over an already high level of 13.6 in 1976 (Niue Government 1980).

Aged dependency also measures the availability of younger adults to care for elderly people. The increase in aged dependency between 1976 and 1986 indicates that fewer working-age adults (effectively, kin) were available in the mid-1980s compared to the prior decade. Or, put another way, the same number of working adults had to support more older people in 1986 compared to 1976. So, compared to 1976, in 1986 Niue had more older people and fewer potential caregivers.

Other Demographic Processes

In the past few decades, Niue passed through not just a demographic transition but also an epidemiological transition (Taylor, Nemaia, and Connell 1987). Both transitions affect the elderly. Leading causes of death changed from being primarily acute, infectious, and potentially preventable to being chronic and degenerative in nature. Hypertension, diabetes, and other risk factors for cardiovascular disease are now prevalent, especially among males. Accidents, especially traffic accidents, are a leading cause of death, particularly for males (Barker 1988, 1993; Taylor, Nemaia, and Connell 1987).

Mortality rates on Niue have decreased in the past four decades and are now quite low, in 1980 reaching a crude mortality rate of under 10 per 1,000 total population (Bakker 1980; Taylor, Nemaia, and Connell 1987). Life expectancy has increased to the extent that for the period 1978-1982 average life expectancy at birth reached 66.5 years (Taylor, Nemaia, and Connell 1987), an improvement since the 1976 Niuean census that reported a life expectancy of around 62 years (Niue Government 1980). As is common elsewhere, females can expect to live longer than males, by about two years. Because more men than women die at younger ages, the sex ratio of older people on the island was 62.6 men for every 100 women, this imbalance being most noticeable after age 75 (Niue Government 1985). While the overall proportion (60 percent) of the elderly who are female has remained steady despite other demographic changes, the proportion of the aged who were very old--over age 75--increased markedly, by 8 percent between 1976 and 1986 (Table 1).

Implications for Social Support

Why are these important demographic changes? What are their implications for social support of Niuean elderly?

First, increasing life expectancy means more people will live to reach age 65 and also that more will likely reach age 75 or above. The older a person is, the more likely he or she is to experience declining health and increased functional impairment or disability, especially as chronic diseases become common (such as diabetes, hypertension, or renal disease). The sicker, more physically impaired, more dependent an individual, the more likely he or she is to need day-to-day assistance. Although women usually have more impairments than men, they generally live longer and require domestic assistance later than do men (Brody, Brock, and Williams 1987; Verbrugge 1984). Further, men usually require more assistance than women, especially with daily activities, such as cooking. Social support or day-to-day assistance

TABLE 1. Elderly Population, Niue Island, 1976-1986

Village	Total Pop. 1986	Intercensal Change in Pop. 1976-1986	Total Population, Age 65+				Difference in Elderly Pop., 1976-1986		Percentage of Age 65+ Pop. Who Were Female		Percentage Change in Female Elderly Pop., 1976-1986	Percentage of Age 65+ Pop. Who Were Age 75+		Percentage Change in Pop. Age 75+, 1976-1986
			1976		1986		%	N	%	1986		1976	1986	
			%	N	%	N								
Niue Island	2,199	-34.1	6.4	247	8.1	178	+1.7	-142	60	60	0	39	47	+8
Makefu	117	-9.4	6.7	9	7.7	9	+0.9	0	44	56	+12	22	33	+11
Tuapa	228	-18.7	8.3	24	9.6	22	+1.3	-2	63	55	-8	29	64	+35
Namukulu	53	-53.1	7.9	9	0	0	-7.9	-9	56	0	-56	33	0	-33
Hikutavake	116	-46.1	9.7	21	15.5	18	+5.8	-3	52	50	-2	24	39	+15
Toi	91	-36.8	7.6	11	6.6	6	-1.0	-5	73	67	-6	27	17	-10
Mutalau	186	-48.1	6.6	24	9.7	18	+3.1	-6	63	56	-7	42	56	+14
Lakepa	138	-35.9	5.0	11	8.7	12	+3.7	-1	45	67	+22	9	50	+41
Liku	111	-55.6	5.3	15	7.2	8	-1.9	-7	60	50	-10	7	63	+56
Hakupu	231	-32.6	7.5	27	9.5	22	-2.0	-5	67	73	+6	41	55	+14
Vaiea	36	-55.6	7.4	6	11.1	4	+3.7	-2	67	60	-7	67	20	-47
Avatele	179	-46.4	7.5	27	6.7	12	-0.8	-15	56	83	+27	59	25	-24
Tamakautoga	172	-42.8	6.4	20	7.6	13	+1.3	-7	65	54	-11	55	54	-1
Alofi	541	-14.9	4.5	43	6.3	34	+1.8	-9	60	56	-4	51	44	-7
Alofi South	256	-23.4	4.5	28	7.8	20	+2.5	-8	53	55	-2	46	50	+4
Alofi North	285	+1.2	4.5	15	4.9	14	+1.0	-1	73	57	-16	60	36	-24

Sources: Niue Government 1980: table 2; Niue Government 1988: table 1.2A.

can come either from informal sources, such as family and kin, or from formal sources, such as government programs.

Taken overall, demographic change on Niue reveals longer life expectancy, greater chronic illness, many more very old people (those aged 75 years or more), but no change in the already imbalanced sex ratio. This suggests a greater need for social support services, a need that will continue to increase in the future. This is being driven more by factors such as age, disease, and disability rather than gender. Aged dependency reveals a declining pool of younger people (kin) available to provide care or informal social support to frail elderly people. Potentially, then, in the future the public sector--the Niuean government--will have to increase both the number and scope of formal services it offers to ensure adequate care for frail elderly.

Regional Differences

All villages on Niue have been affected by out-migration but not in the same way or to the same degree (see intercensal population-change data, Table 1). Nor has the effect on the elderly been uniform. Despite the relatively small size of the total population and of the island, different regions on Niue had quite distinct migration experiences (Table 2). Vaiea and Namukulu villages are very small, both having fewer than 100 residents in 1986, and experienced very large, chance fluctuations in population. Because of this, I omit these two villages in this discussion of regional differences.

The West Coast. Between 1976 and 1986 Alofi, the capital, and the other western coastal villages, Makefu and Tuapa, experienced the least population change of all regions on Niue.

The western region had the smallest mean decrease in total population and a small rise in the average proportion of elderly. There was also a considerable rise in the mean proportion of elderly who were very old (aged 75 years or more) but no change in the proportion who were female.

TABLE 2. **Demographic Change, by Region, Niue Island, 1976-1986: Percentage**

Region	Total Pop.	Total Elderly Pop.	Elderly Females	Elderly Age 75+
Niue Island	-34.1	+1.7	0	+8.0
West Coast	-14.3	+1.3	0	+13.0
South	-40.6	-0.5	+7.3	-3.7
Northeast	-45.3	+1.9	+0.6	+23.2

Sources: Niue Government 1980, 1988.

These are the largest, wealthiest, and most stable villages. Not only does this region encompass the seat of government and the residences of many senior government officials, but it is the leeward coast. Thus, access to the sea and therefore to fishing revenues is greater than elsewhere. Access to land for agricultural purposes, including supplementing income, is also relatively easy.

The South. Tamakautoga, Avatele, and Hakupu had a more mixed experience with respect to demographic change in the decade 1976-1986. Although these villages lost on average nearly 41 percent of total population, there was no rise in the mean proportion of elderly in the population. Moreover, the proportion of elderly who were very old decreased somewhat, although the mean proportion who were female rose sharply.

These are moderately wealthy villages, which have experienced considerable but not the greatest out-migration. Coastal access is difficult only for Hakupu; all villages have access to moderately productive land and agricultural pursuits. A variety of medium- to high-level government employees reside in these villages.

The Northeast, the 'Back.' Permanent out-migration has affected most severely the five villages in the Northeast, or as they are known on the island, "Back" villages--Hikutavake, Toi, Mutalau, Lakepa, and Liku. These villages generally experienced the biggest declines in total population between 1976 and 1986, losing on average almost half (45 percent) of their people. This region not only experienced the greatest rise in the mean proportion of the population who are elderly, but the proportion of elderly aged 75 years or more rose most precipitately, by a mean of +23 percent. In 1986, in three of the five Back villages, more than half the elderly were of an advanced age, 75 or more years. The proportion of elderly females increased very slightly.

Not only are these villages the most distant from Alofi, the center of commerce and government jobs, but they have a long history of economic disadvantage compared to other villages on the island. Throughout the 1970s the Northeast had the highest proportion of people living in poverty (Bakker 1980). Continued out-migration throughout the 1980s exacerbated the region's socioeconomic woes. Out-migrants from the Northeast did not always have an overseas destination in mind. Internal migration, from the Back villages to the West Coast, has been a feature of life on Niue since the mid-1970s (Bakker 1980). Youth seeking education and employment mobilize some of their more-distant kin ties to people in other parts of the island or marry and move to their spouse's village.

Nowadays, the Back villages are characterized as being poorer and the most traditional compared to the other villages. Ownership of consumer goods demonstrates this: For example, the 1986 census shows that 34 percent of the households on Niue are located in the Back villages but only 23 percent of the refrigerators, 21 percent of the electric washing machines, and 14 percent of the video/TV/VCR sets. In addition, 40 percent of the households who rely on open fires or traditional *umu* (earth ovens) for cooking are in the northeastern quadrant of the island (Niue Government 1988). Relatively few people living in these villages have high-paying government jobs. Coastal access is exceedingly difficult for three of these villages, which greatly reduces day-to-day subsistence and potential revenues from fishing pursuits. Money from weaving and other traditional handicrafts goes disproportionately to people in these villages, who derive a substantial part of their income from such occupations.

Public Sector Response: Formal Support Services

Although children continue to make up about half the total population (Niue Government 1988), Niue's population is rapidly aging. Reasonably enough, until recently Niuean social and welfare policies have been aimed at improving and sustaining children's health and welfare. Now, however, the elderly comprise an important and growing population segment not just in size but also in need for resources. With an increased life span and chronic diseases that often lead to functional impairments, older people generally make disproportionate use of health and welfare services; for example, in the United States in the mid-1980s the elderly made up about 12 percent of the population but used 30 percent of health services (Brody, Brock, and Williams 1987; Verbrugge 1984). With continued aging of the population, increasing use of formal services by elderly Niueans is inevitable. In the future, public policymakers on Niue will have to reallocate health and welfare resources from children to the elderly.

Hauser identified income maintenance, housing, and health care as key formal services necessary to support the elderly in a modernizing society (1976). The government of Niue has been providing these three formal services for some time.

Income Maintenance

Poverty among the elderly was long noted by the island's administration. In 1958 an annual tax was instituted to provide relief funds for the indigent aged. This tax was later incorporated into the general financial structure

of the Niuean government, which has ever since been providing small pensions to elderly people (Pulea 1986). The pension is modest, about one-fifth the take-home pay of a low-level government employee such as an untrained nurses' aide.

Housing Assistance

Housing assistance takes the form of provision of government-owned small wooden huts, known as assembly units. Originally used as hurricane relief shelters, assembly units are now seen as a right for older people. The small rental fee for these units is sometimes deducted directly from the persons pension.

About 10 square meters in area, these "in-law apartments" or "granny flats" are placed near a main dwelling. Frail older people move to the small unit, maintaining independence yet relinquishing the burden of running a large household to their children or other kin who live nearby. Though they may no longer head the household, elderly people are still household members even though they might now live in a separate dwelling. Frequently, a grandchild is dispatched from the main dwelling to live with his or her grandparent(s), as a way of keeping kin ties "warm" and providing assistance.

Medical Services

At the time of my fieldwork, Niue was said to have "the best medical services in the Pacific" (Connell 1983; Walsh and Trlin 1973). These services are supported by massive financial aid from New Zealand and from international agencies, such as the World Health Organization (Connell 1983; Niue Government 1982a). As is common throughout Oceania, medical services are two-tiered (Newell 1983). A strong, centralized hospital tier run by health professionals supports a smaller and much weaker peripheral tier of district workers and clinics. Cases requiring specialists or urgent intensive care are evacuated by air, usually to New Zealand.

Alofi is the site of the 20-bed hospital complex, which has been in existence since 1922. This complex provides outpatient, X-ray, laboratory, pharmacy, and dental services. A mobile medical clinic staffed by a physician and a nurse visits each of the outlying villages four times a week, and an ambulance is always on call. All health-care services are provided free of charge. Per capita expenditure on health services in 1982 was NZ\$191, around 12 percent of the annual government budget (Niue Government 1982a). None of the four physicians attached to the Niuean Health Department has any

training in geriatric medicine beyond that given during basic coursework at the Fiji Medical School. Several of the 23 registered nurses, however, had worked in geriatric facilities for varying periods of time while in New Zealand (Barker 1985).

Documentation of older adults' use of outpatient services on Niue simply does not exist (Barker 1988). In the period 1977-1982, however, a total of 274 hospital admissions of Niuean elderly were made. They comprised about 8 percent of all hospital admissions in this period (Barker 1988). The elderly on Niue do not yet overuse medical services in comparison to their proportion in the total population.

No official institutional alternatives to hospitalization exist to provide long-term care to very frail elderly. Fourteen (5 percent) of geriatric admissions from 1977 to 1982 were for the unspecific admitting diagnosis "nursing care." Geriatric "nursing care" patients were all people aged 70 years or more, two-thirds of whom were men over age 80. Such patients generally remained in the hospital until their death, between three months and two and a half years later (Barker 1988). Although the establishment of a geriatric nursing home, similar to Mapuifagalele in Western Samoa (see Holmes and Holmes 1987), has been mooted in the past, so far the idea has received little public or governmental support.

In addition to providing medical services to elderly people on an emergency or routine basis, once a month the Health Department dispatches a public health nurse to check on all elderly people, especially those known to be frail or recently discharged from the hospital. The majority (79 percent) of elders surveyed in 1985 were on the public health nurse's "geriatric list" and were visited monthly. At the time of her visit, this nurse also distributes free skim-milk powder as a nutritional supplement.

Informal Support

Although formal support services are vital and important for maintaining older people in the community, it is the private sector that actually provides the vast bulk (over 80 percent) of social support and care. Informal care in old age comes mainly from family (Stephens and Christianson 1986; Stone, Cafferata and Sangl 1987). This is especially true in developing nations (Nydegger 1983), where formal services for the elderly are likely to be rudimentary in scope and function, and very secondary in a public sector focused on providing a broad array of services for children. Elderly people without informal social support, especially family caregivers, are at risk of not receiving adequate care or, outside the Third World, of being institutionalized.

Women--wives and daughters--are the primary providers of day-to-day help (Stephens and Christianson 1986; Stone, Cafferata, and Sangl 1987). Because men experience greater mortality at younger ages than do women, more older men than women are likely to be married. Therefore, spouses who provide care tend overwhelmingly to be wives and not husbands. Like wives, daughters provide hands-on personal and instrumental care as well as emotional support. Sons do help their parents, but it is more likely to be assistance with finances, transport, or housing rather than day-to-day? personal care, meal preparation, or similar activities.

Compared to those with wives and daughters, frail older people without spouses or daughters are at risk of neglect. Equally at risk are people who live alone and have medical or functional (physical) conditions that compromise their ability to care for themselves.

Out-migration has reduced the number of younger adults present and able to provide care for elderly Niueans. The increasing dependency ratio is one sign of this. Other indications of the nature and consequences of out-migration on the availability of informal social support for the elderly comes from a structured survey conducted in 1985 of a randomly selected sample of half of all (126) elderly Niueans on the government pension list as of October 1984 (Barker 1989).¹

Survey of Niuean Elderly

The survey sample comprised 21 males and 42 females. Their average age was 74.4 years ($SD = 6.4$, range 65-87). More than half (57 percent, $n = 36$) were aged between 65 and 74 years, with 27 percent being between 65 and 69 years. Although 33 percent of the men were over age 80 whereas only 20 percent of women were this old, these differences were not statistically significant.

A relatively large portion of these 63 elderly people were healthy and active (Barker 1989). One-quarter (24 percent) reported having no medical problems and one-third (33 percent) experienced no diminution of functional abilities. Over half had vision or hearing problems. Respiratory conditions, arthritis, and diabetes were other common health conditions. Fifty percent claimed some form of limitation to functional ability or regular activity, decreased mobility being the most common impairment. Overall, 14 percent ($n = 9$) of these older Niueans reported having four concurrent medical conditions and being multiply impaired.

Number and type of medical conditions were unrelated to sex, age, or functional status. Functional status, however, was significantly ($p < .05$) related to both sex and age: Men were generally more impaired than

women, those aged 75 years or above were more impaired than those aged 65 to 74 years, and men aged 75-plus were more impaired than younger men (Barker 1989). Caution is needed in interpreting these data, however; findings with respect to very old men could result from age inflation, that is, the attribution of advanced chronological age to men disabled by many functional impairments.

Forty percent of the survey group were married, significantly more men (62 percent) than women (29 percent) (Fisher's Exact, $p < .01$). Only 8 percent ($n = 5$) had either never married or were divorced or separated. Just over half (52 percent) the respondents were widowed, most for longer than 10 years, some for as long as 45 years. Five individuals (three men and two women), however, were widowed less than two years. These people seemed to have adjusted to their new status without undue stress. Unlike in the industrial, modernized world where death of a spouse often occasions major change in housing or geographic location, the death of a spouse on Niue changed the household constellation relatively little. This may have been a protective factor. The relative weakness of the spousal bond compared to sibling ties could also protect the newly widowed from some bereavement trauma (Barker 1989).

Few offspring born to these elders remained on Niue, most having migrated to New Zealand or, occasionally, to other Pacific nations (Table 3). There was no relationship between the elder's age, sex, or marital status and the number or sex of offspring remaining on the island. Four men (21 percent of all men) and 13 women (32 percent of all women) had no children left on the island.²

Altogether, 67 percent of the sample had at least one son and 60 percent had at least one daughter in New Zealand; 15 percent had four or more sons

TABLE 3. **Children Born to Niuean Elderly and Children Remaining on Niue Island, 1985**

	Mean	Standard Deviation	Range
Total children born	5.5	3.2	0-16
Total children left on Niue Island ^a	1.7	1.5	0-6
Sons born	3.0	2.5	0-10
Sons in New Zealand	1.6	1.8	0-7
Daughters born	2.5	2.0	0-9
Daughters in New Zealand	1.3	1.4	0-6

Source: Author's survey, 1985.

^aExcludes five children (primarily sons) who had died, not moved away from Niue.

and 6 percent four or more daughters in New Zealand. Thirteen percent had at least one son residing off Niue but not in New Zealand: 6 percent had a daughter living in some place other than Niue or New Zealand.

Overall, then, the availability of (actual and potential) caregivers to frail elderly has decreased since 1976. In 1985, compared to men, women have fewer primary caregiving resources, that is, fewer spouses and fewer children remaining on the island.

Households

Defining a household on Niue is far from straightforward. Dwellings belonging to a *magafaoa* or related kin group are usually clustered together on contiguous parcels of land within the village boundary. Several different family units, all members of the same *magafaoa* or extended kindred, reside in these dwellings. Thus, one's neighbors are usually also one's kin, though not necessarily close kin. Dwellings, and the land associated with them, are assigned to individual family units within the *magafaoa*. Large *magafaoa* contain several distinct but related households composed of various families, that is, combinations of married couples and their offspring, distantly attached adults or children, and visiting kin, spread over a several generations. People who share a hearth, a cooking *umu*, or other domestic utilities are usually regarded as belonging to the same household; an extended family, scattered across several dwellings, can still form a single household based around a common hearth and a stable core of family members, such as a grandparental couple (Barker 1985; Pollock 1979).

If older people keep a separate hearth, they are living in a different household but within the same family. If they do not keep a separate hearth, as often happens as older people become more and more frail, they are thought of as residing separately, especially if they move to an assembly unit or to another dwelling away from the central hustle-and-bustle generated by young children.

Size. The average number of other persons in the household in which the aged lived was 2.7 ($SD = 2.6$, range 0-12). Just over half (56 percent, $n = 35$) the respondents lived with two or more people. For men, the more children still on Niue the greater the number of persons lived with (Pearson's $r = .79$, $p < .0001$); this association did not hold for women.

Nine (14 percent) elderly Niueans lived alone, seven in assembly units. The proportion of the total population living alone remained steady at 2 percent between 1976 and 1986. Figures are not available for how many elderly lived alone in 1976, but in 1986 the proportion living alone was considerably

higher than for the rest of the population. Of course, what living alone means here is different from what it means in an urbanized, Western nation. Living alone on Niue usually means not sharing a dwelling with another person while having that dwelling located near--within calling distance of--other people, usually close (lineal) km. Only three of the nine elderly living on their own, however, had close kin next door: Six lived near people who were collateral kin (e.g., niece or cousin) or who were simply described as "neighbors."

Throughout the 1950s and 1960s medical officers reported that older people living on their own tended to be in far worse medical and physical condition than those living with others. This was no longer true in the mid-1980s. Among older people surveyed, living alone was not significantly related to medical or physical condition (Barker 1989).

Composition. Spouses and children played prominent roles in the constellation of households containing elderly respondents, as Table 4 documents.

A respondent's age was unrelated to his or her marital status, number of other persons lived with, or household membership. The elder's sex and marital status, however, affected greatly the number of others in the household and their relationship to the respondent.

TABLE 4. **Size and Composition of Households with Elderly Members, Niue Island, 1985 (N = 63)**

	Total Number	Subtotal
Number of others in household		
Mean	2.7	
Standard deviation	2.6	
Range	0-12	
Composition		
Older person lives alone	9 (14%)	
Lives with one other	19 (30%)	
Spouse		9
Child		5
Other		5
Lives with more than one other	35 (56%)	
Spouse + child(ren) + grandchild(ren)		16
Child(ren) + grandchild(ren)		10
Grandchild(ren) + their child(ren)		7
Other relative		2

Source: Author's survey, 1985.

Consider further, for example, the elderly people who lived on their own. Only one man lived on his own. A widower, he had no children currently living on the island. Eight widowed women also lived on their own. Only three of those women had no children on Niue; the other women had up to four children on the island but had chosen to remain independent and live by themselves.

Spouses formed the basis of the household for the majority (96 percent) of married elderly people. Such households were often extended through the presence of several grown children (plus one or more sons-in-law or daughters-in-law) and grandchildren. Many more daughters than sons were members of elderly people's households. Adopted daughters or step-daughters were important household members for 10 percent of the elderly.

Of the elderly whose spouses had died, nine (26 percent of widowed people) lived in households with grandchildren. Just one married elderly person (4 percent of married people) lived with a grandchild and his offspring. At the time of the survey, this man's wife had been visiting their children in New Zealand for a few months but it was unclear whether her stay there was to be temporary or permanent. The couple faced several options. The wife could return to Niue soon, could stay in New Zealand for a number of years to help her children with household tasks and later return to Niue, or could decide not to return to Niue at all. If she did not return soon, the husband might or might not decide to join her.

No kin other than direct lineal descendants were present in the households of married elderly people, whereas those who were widowed frequently formed or joined households with collateral or distant kin. Four (11 percent) widowed respondents, for example, lived in households made up of their equally-old siblings or the offspring of siblings. In general, then, elderly people on Niue live in multiperson households composed mainly of spouses and offspring, with social ties extending across several generations. Children who remain on the island, and their offspring, not only tend to form the basic households in which many elderly live but they also serve as important sources of help and assistance for people who require help.

Internal Migration. Migration within Niue appears low, in keeping with the somewhat matrifocal, endogamous nature of the village. Only seven (11 percent) elderly people regarded themselves as having lived for any substantial period of time in a village other than the one in which they were surveyed. Internal migration by elderly women was very different in nature from internal moves by elderly men.

Four internal migrants were women who had changed villages upon

marrying some 35 or more years previously. A recent move was made by a woman who accompanied her husband to his natal village upon his retirement and relinquishment of a government-supplied house in Alofi.

One 67-year-old man and his wife had returned to Niue after being in New Zealand for many years, during which time they supervised their children's household. Once the education of their New Zealand-domiciled grandchildren was complete they returned, not to their natal village but to live with a daughter in her husband's village. Another male who migrated internally was an 87-year-old widower whose only child, a son, lives in New Zealand. A long-standing dispute with in-laws in a West Coast village recently turned bitter and resulted in his moving to an assembly unit on his cousin's property in the South. The future does not look bright for him, as he is in only fair health, needs personal assistance on a day-to-day basis, and is no longer able to engage in any form of productive work. He is exactly the kind of person liable to be neglected should he become more physically frail or decrepit (see Barker 1990).

Regional Differences. Differences by region in household size and composition are not great (Table 5). However, these differences demonstrate that compared to other regions, in the villages of the West Coast substantially more older people live alone or live with more than one other person. That is, immediate access to social support is different for the elderly in each region. Further, 25 percent of older people in the Northeast and 14 percent in the South live not as expected with a female relative but with a grandson. On the West Coast, however, the elderly reside with women--wives, daughters, or granddaughters.

TABLE 5. **Size and Composition of Households with Elderly Members, by Region, Niue Island, 1985 (N = 63)**

	West Coast (n = 21)	South (n = 22)	Northeast (n = 20)
Size			
Mean	3.5	3.7	3.1
Standard deviation	3.0	2.4	1.8
Range	1-12	1-10	1-7
Composition			
Lives alone	5 (24%)	2 (9%)	2 (10%)
Lives with one other	3 (14%)	7 (32%)	9 (45%)
Lives with more than one other	13 (62%)	13 (59%)	9 (45%)

Source: Author's survey, 1985.

Caregiving

Maintenance of social roles and the ability to perform personal-care tasks and provide for basic daily subsistence needs are major aspects of life. Not all Niuean elderly were able to undertake these activities independently.

Personal Care. No elderly Niuean claimed to need assistance with eating, bathing, toileting, dressing, or general grooming. The public health nurse, however, noted that though the individuals themselves made no such claims, four (6 percent) people needed reminding about personal hygiene.

Subsistence Needs. Of the 63 people surveyed, 40 percent ($n = 25$) said they needed help with subsistence or domestic tasks. Eighteen people (29 percent) received help with cooking only while a further seven (12 percent) required assistance with both obtaining food and drink and with cooking. Significantly more men (62 percent) than women (28 percent) needed assistance with domestic chores (Fisher's Exact, $p < .01$). This is not surprising. Although it is not uncommon for a man to engage in household chores, there are nevertheless differing sex-role expectations that result in men's having less practice than women at performing domestic chores.

Though a few dwellings on Niue have indoor electric ranges, most households use either a charcoal stove or the traditional earth oven, usually located in a separate but nearby hut. These cooking methods require considerable physical agility to heat the charcoal or stones and to cover and uncover the cooking pit. Elderly people received help with cooking from relatives with whom they lived or from kin in neighboring houses.

Social Activities. Activities that signal an elders continuing social involvement are the performance of tasks that contribute to the economy of the general household or extended family group, such as minding children, picking up rubbish, preparing food, weaving mats, and so forth (see also Rubinstein 1986). Almost all elderly people in the sample, 89 percent ($n = 55$), performed at least one domestic task on a regular basis (at least once a week). Three respondents undertook domestic activities less frequently and five performed no tasks. Of all males, 19 percent ($n = 4$) no longer did any household chores, whereas all females still engaged in some domestic activities, a difference that is significant (Fisher's Exact, $p < .01$).

As is common in contemporary Polynesian societies, the church is the center not just of religious but also of village life. One of the most important social activities Niueans undertake is attendance at weekly church services. The majority (71 percent, $n = 45$) of elderly maintained social involvement

in their community by attending church every week. There was a significant difference in church attendance by sex (Fisher's Exact, $p < .02$), more males (38 percent, $n = 8$) than females (12 percent, $n = 5$) rarely attending church. Nonchurchgoers tended to be over age 75.

One important contribution that the elderly make to their community is using their knowledge of local history and lore to settle land boundary and ownership disputes (see also Rubinstein 1986). Explaining present family and land connections through past kin ties and land ownership or use is an important social function. Another social role indicating continued social engagement, and one reserved largely for the elderly of either sex, is that of traditional healer or *taulaatua*. Relatively secret and officially discouraged (Niue Government 1982a), the practice of traditional medicine is similar in many respects to that described for other Polynesian societies (Parsons 1985).

Care Recipients. Approximately half the elderly receiving care are male (Table 6). As a group, female care recipients are around five years younger than male care receivers. Although this is a statistically significant difference ($p < .05$), it probably reflects inflation of men's ages rather than an actual difference in age between frail older males and females.

The proportion of elderly in each region frail enough to receive care

TABLE 6. **Elderly Care Recipients and Their Caregivers, by Region, Niue Island, 1985**

	West Coast	South	Northeast
Care Recipients			
Number	6	9	10
Percentage of region's total elderly	29	41	50
Mean age in years	77.2	73.8	80.3
Standard deviation	5.3	5.7	7.0
Age range in years	74-82	70-85	65-87
Percentage male	50	44	60
Caregivers			
Wives	2	3	3
Husbands	0	2	1
Daughters	2	3	2
Sons	1	0	2
Other	1	1	2
Percentage preferred primary caregiver (wife or daughter)	67	67	50

Source: Author's survey, 1985.

increases in parallel with the degree of out-migration from each region (compare Tables 2 and 6). The relatively stable West Coast region, which sustained least out-migration, has the smallest proportion of elderly receiving care whereas the Northeast, which sustained the most out-migration, has the greatest proportion of elderly receiving daily care and assistance. The sex and age of people receiving care varies slightly by region, the oldest being in the Northeast. This is consistent with the high number of very old people who live in this region.

Caregivers. For just over half the cases (60 percent), wives or daughters were primary caregivers to frail older people. This is a considerably lower proportion than is found in Western countries, such as the United States, where around 80 percent of informal care is provided by these two classes of caregiver. Preferred primary caregivers, that is, wives or daughters, are most common in the West Coast villages on Niue and least common in the Northeast (see Table 6). Again, this parallels the level of out-migration from each region. Husbands play prominent caregiving roles in the South as do sons in the Northeast. In all regions on Niue, between 10 and 20 percent of frail elderly receive care from relatives other than spouses or offspring.

In summary, then, those elderly in need of daily care receive it primarily from women: wives and daughters. There is some variation by region. In the Northeast, which experienced greatest population loss between 1976 and 1986, not only do proportionately more older people need care but this care is more often delivered by people who are not preferred primary caregivers.

Effects of Out-Migration on Informal Social Support

To examine further the impact of permanent out-migration by young adults and their children on the elderly's access (potential and realized) to informal social support, the sample was split into groups representing extremes--those elderly with few and those with many children remaining on Niue. The question is: How does a diminution in resources for informal support affect the elderly and their living arrangements? By comparing elderly with few and with many children remaining on the island, this question can be answered. The Few group comprised elderly people with a low proportion (25 percent or less) of their still-living children left on Niue; the Many group had a high proportion (75 percent or more) of their living children left on Niue.

There was no significant association between the elder's age or sex and the number of children remaining on the island (i.e., whether they were in the Few or Many group). Consistent with expectations generated by census

figures, more people (54 percent) in the Few group than in the Many group (20 percent) come from the five Back villages, although there were no statistically significant differences in village affiliation between these two groups. Nor was the village affiliation in these groups different from that of the entire sample.

The Few group totaled 20 people, 4 (20 percent) males and 16 women. Most (60 percent) were under age 75. Generally, the people in this group were healthy and active; 45 percent still engaged in productive activity in the bush gardens, and almost all (90 percent) still attended church on a weekly basis.

Of the five men and five women in the Many group, the majority (70 percent) were between ages 65 and 74; 20 percent still engaged in heavy activity, such as bush gardening; and 60 percent went to church on a regular basis.

The size and composition of households in which the elders of both groups lived is one indication of the impact of out-migration on informal social support availability. Informal social support decreased between 1976 and 1986, most affecting the Back villages, men, and the very old.

Size of Household

Overall, significantly ($p < .0006$) fewer people lived in the Few group's households than in the Many's (Table 7). On average, elderly individuals with few children left on Niue lived with three fewer people than did elderly with many children left on the island.

TABLE 7. **Household Size and Composition: Elders with Few and with Many Children Remaining on Niue Island, 1985**

	Elderly with Few Children ($n = 20$)	Elderly with Many Children ($n = 10$)
Size*		
Mean	2.2	5.6
Standard deviation	1.5	3.3
Range	1-7	1-12
Composition [†]		
Older person lives alone	7 (35%)	1 (10%)
Lives with one other--spouse only	6 (30%)	0 (0%)
Lives with more than one other	7 (35%)	9 (90%)

Source: Author's survey, 1985.

*ANOVA, $p < .0006$ † χ^2 , $p < .005$

In both groups, people aged 75 or more years lived with significantly fewer people than did those aged 65 to 74 years (mean = 1.5, $SD = 1.2$, range 0-3 versus mean = 3.0, $SD = 3.2$, range 0-12; t-test $F(22, 13) = 7.797$, $p < .004$). Moreover, women aged 75 or more years lived in significantly smaller households than did other women in the two groups (mean = 1.3, $SD = 1.0$, range 0-3 versus mean = 2.7, $SD = 3.4$, range 0-12; t-test $F(17,6) = 12.848$, $p < .005$).

Composition of Household

Not surprisingly, for the Few and Many groups, an elderly individual is significantly more likely to live alone if widowed (46 percent) than if married (7 percent) (Fisher's Exact, $p < .02$). The proportion of widowed and married people, however, did not vary significantly between these two groups. Three people in the Few group and two in the Many group lived in assembly units; all but one of these individuals was widowed.

People in the Few group are significantly more likely than those in the Many group to live alone (Kruskal Wallis $H = 7.833$, $p < .005$). Seven of the total number of elderly living alone ($n = 9$) have few children remaining on Niue. Over half (54 percent) the married people in the Few group live just with their spouses, whereas no married person in the Many group lived with just a spouse. Most in the Many group live in households containing children or grandchildren. It is no surprise then to learn that only about one-third (35 percent) of the Few group lives with more than one other person whereas most (90 percent) people in the Many group live with more than one other (see Table 7).

People in the Few group are different in some important respects from their counterparts in the Many group. Those with few kin left tend to report themselves as being healthier and more active than those with many kin remaining. With fewer close kin around to help out, these people have to stay active and fend more for themselves--or at least claim to be active and able.

A total of 11 people in both groups receive daily help with personal or household chores, 7 (35 percent) in the Few group and 4 (40 percent) in the Many group. People in the Few group relied less on wives and daughters and more on distantly related kin to provide care than did people in the Many group. This clearly demonstrates that after young married adults or unmarried youth have migrated from Niue, frail older kinspeople left behind rely on more distant relatives for care.

The Importance of Daughters

On a societal level, there has been no change in the sex ratio produced by out-migration. Exactly the same proportion of males and females--34 percent--departed from Niue between 1976 and 1986 (Niue Government 1988). However, as not every person produces the same number of sons and daughters, the impact of a son's versus a daughter's departure can be very different.

Indeed, for people in both groups there is a significant association between the ratio of daughters-to-sons and the proportion of offspring remaining on Niue. In these two groups, compared with those who had mainly sons, elderly people who had either the same number or more daughters than sons were significantly more likely to have most of their children still in residence on Niue (Fisher's Exact, $p < .03$). If an elder had more daughters than sons, he or she was more likely to be in the Many group than in the Few group, that is, to have more than 75 percent of his or her offspring still on the island.

The impact of this differential access to daughters is quite widespread. It affects the size of the household in which the elder resides, its composition, and, of course, the availability of a preferred primary caregiver in times of sickness or frailty. On Niue, as elsewhere in the world, it is women--wives and daughters--who are the preferred primary caregivers and who daily provide the majority of care to the frail elderly.

Unlike elderly men, most elderly women are widowed and are unlikely to remarry. Therefore, women generally have no spouse to care for them, and so must rely even more on daughters or more distantly related kin.

Adoption

Adoption of a girl is a mechanism that can increase the ratio of daughters-to-sons. Parents sometimes ask if they can adopt a grandchild as repayment for the years devoted to bringing up their own offspring and for company (Barker 1985; see also various chapters in Counts and Counts 1985). This is overtly acknowledged to be a way of ensuring the availability of a young, able-bodied person to do household chores and provide care in old age (Barker 1985). Adopted children, *tama hiki*, girls especially, are explicitly and repeatedly reminded of the strong moral obligation they have to care for their adoptive parents. Adoption also demonstrates that although the physical strength or functional ability of an older person may be declining, he or she retains an important social competence, namely, the ability to raise chil-

dren. Niueans generally make only a slight distinction between long-term fostering and adoption of a child. Customary adoption (long-term fostering or *de facto* adoption) and legal adoption (*de jure* adoption) both carry the same moral and social obligations between generations. Adoption, then, is more than a way of cementing the biological and social ties between generations; it is also intended to ensure care in old age.

Throughout their adult life, women are more likely than men to adopt and to adopt close female kin (Barker 1985:330-353). Although it is a married couple who legally adopts a child, in fact most customary and legal adoptions are initiated by only one person usually a woman. Of 33 legal adoptions recorded on Niue in 1981 and 1982, 75 percent were adoptions made through the biological mother's parents, female siblings, or more distant female kin. Three times as many girls as boys were adopted by the mothers parents; boys were significantly more likely (Fisher's Exact, $p < .03$) to be adopted by distant paternal kin.

In old age, then, women are more likely than men to have a favorable daughter-to-son ratio and therefore to live in larger, multigeneration households and be given care by daughters rather than by sons or more distant kin. This is yet another reason why women are less likely to be abandoned or neglected in old age than are men: Men are more likely to have no daughter to care for them (Barker 1990).

In 1985, 10 percent (six) of the surveyed elderly were either living with or being cared for by adopted children. Four of these six were care recipients, were women, and lived mainly with their adopted daughters.

Adequacy of Care: The Decrepit Elderly

Do all elderly Niueans who need informal social support receive adequate care? The short answer is: No. In general, elderly people who are still active and relatively intact or engaged (in physical, mental, and social senses) receive better care and more adequate informal social support than do elders who are becoming decrepit, that is, are becoming physically frail, cognitively impaired, or socially withdrawn (see also various chapters in Counts and Counts 1985). Frequently, decrepit elders on Niue are neglected (Barker 1990).

In 1982-1983, only about 5 percent of the elderly on Niue were very frail or decrepit (Barker 1990). Decrepit elderly tended to be very old, widowed, and living alone, with severe mobility impairments, multiple sensory losses, and very limited or no social roles. They also tended to be male, childless, of a fractious disposition that created conflicts within the kin group, or recently returned from a decades-long period overseas (Barker 1990). The differ-

ence between intact elderly and decrepit elderly is even signaled linguistically. Regardless of chronological age, *ulu motua*, "gray-haired one," is used to refer to a socially active and mentally able elderly man whereas *penu-penu-fonua* or *mutumutu-fonua*, "grayfish of the land," is a graphic if rather morbid metaphor describing decrepit, physically and mentally frail old men.

Some decrepit people--predominantly very old men--end up in the hospital for "nursing care" (Barker 1988). Total abandonment of frail old people no longer occurs, and neglect is not absolute. Compared to intact elders, very frail people still living in the community receive less frequent visits from kin and less adequate nutrition, clothing, or psychosocial care. Unlike the intact elderly, decrepit elderly on Niue are no longer personally in control of essential resources.

On Niue, abandonment or neglect of the very frail elderly is not new and not a response to rapid depopulation. Rather, it has been noted by various commentators since the early twentieth century (Barker 1990). It is a behavioral response to the liminal status of the very frail, decrepit elderly, to their impending transition from frail elder living in this world to an ancestor residing in some supernatural domain. Neglect is a form of distancing--from the disquieting manifestations of decrepitude, from supernatural contamination, and from the emotional upheaval caused by death, an expected but nonetheless difficult social process (Barker 1990). Having an elder live alone is yet another means of literally and figuratively distancing younger kin from the potentially noxious influence of the supernatural world as the very frail journey to the next world.

Conclusion

Since 1976, there has been massive, sustained out-migration from Niue island. More than other demographic or epidemiologic processes, migration has fashioned the structure and composition of the contemporary population. The permanent loss of youth and young married adults with children has resulted in an increase in the proportion of elderly in the population, especially in the Northeast (i.e., the Back villages), which has experienced the greatest overall population loss. The elderly now comprise over 8 percent of Niue's population, and aged dependency, at 15.3, is very high. Moreover, the elderly population is increasingly composed of the very old, those aged 75 years or more.

Compared with previous decades, older Niueans now have fewer children, grandchildren, or other kin left on the island. People for whom the majority of their children have migrated away from Niue tend to live in smaller households--even to live alone--and to have less access to or con-

trol over essential resources. Older men are more likely than older women to be frail and in need of care on a daily basis, to not engage in social activity (especially church attendance) or household chores, and to be neglected should they become frail or decrepit.

As elsewhere, on Niue females rather than males are the preferred primary caregivers. Wives and daughters carry the responsibility of providing care to physically or cognitively impaired older people. Compared to those with few daughters, the elderly with many daughters or with more daughters than sons more frequently receive care from close lineal kin. In old age, women are more likely than men to have a favorable daughter-to-son ratio because of a lifetime propensity to adopt younger female relatives.

In the near future, the elderly population on Niue will become proportionately even larger and more physically frail and dependent. This will further strain shrinking familial resources and a social welfare and medical system still geared towards acute, infectious disease and children. As the informal support system or private sector--the family--becomes burdened by increasing aged dependency, then the public sector will have to expand formal supports to older Niueans. Increased financial, social welfare, and medical services will be needed.

The social processes of aging on Niue are similar to those described for other Pacific societies (see, e.g., Rubinstein 1986). In Pacific societies generally, mature older people are not recognized as forming a distinct social group whereas frail, decrepit elderly individuals are so categorized (see, e.g., various chapters in Counts and Counts 1985; Barker 1990; Donner 1987; Rubinstein 1986). In Pacific societies, role and status in old age are not ascribed, nor are they functions of chronology or relative age; rather, role and status in old age are achieved and situationally defined. Older people strive to make old age a prolongation of maturity rather than a slide into decrepitude and death. Elders who are engaged, vital, active community participants generally fare better than do decrepit elders, physically or cognitively frail individuals who are no longer socially engaged.

Population numbers for Niue are small and therefore subject to large chance fluctuations, which makes interpretation somewhat difficult. It would appear, however, that on Niue the inextricably entwined processes of modernization and migration have had a considerable impact on the living situation of the elderly, changing household size and composition in ways that reduce the amount of informal support available to elderly family members. This study suggests that closer examination is needed of migration, that ubiquitous process throughout the Pacific region. Investigating the impact of migration on specific subsets of a population, such as the elderly, will produce new insights not only into the nature and form of contemporary

Oceanic societies but also into the public policy tasks confronting the formal (government) and informal (family) sectors, especially with respect to the provision of financial, social welfare, and medical services.

NOTES

1. Nine elderly non-Niueans on Niue during the 1986 census have been excluded entirely from this analysis.

It is difficult to know precisely how many Niuean elderly were on the island in any specific year because various official sources give slightly different figures. For example, the census carried out in 1986 records a total of 178 Niuean elderly (Niue Government 1988: table 1.2A). This figure is higher than the government's old-age pension list, a list of 126 people compiled in October 1984. It is reasonable to expect the 1986 numbers to be *lower* than the 1984 numbers, because of deaths and, possibly, out-migration of elderly people. That this is not the case could result from several processes: (a) back-migration to Niue by 1986 of elderly people who had been resident elsewhere in 1984; (b) exclusion from the pension list of elderly who for some reason did not meet eligibility requirements; and (c) enumeration or counting errors in the 1986 census. A combination of some or all of these factors most likely accounts for the apparent increase in elderly between 1984 and 1986. Back-migration by the elderly does occur but in small numbers and infrequently. Few Niueans would not meet the eligibility criteria for a pension, which are that a person be a permanent resident of Niue and a New Zealand citizen, and be aged 65 years or more if male and 60 years or more if female (Pulea 1986). Census miscount is always possible but the procedures for enumeration and checking effectively minimize this. The "confidentiality assurance technique of randomly rounding census statistics to base three" preserves accuracy of data without compromising privacy but does occasionally result in "a total disagreeing slightly with the total of the individual items as shown in the tables" (Niue Government 1988:25). While the absolute number of elderly at any point in time might be unknown, the proportion of elderly in the population, and the general size and composition of this group, is well known and essentially the same across differing sources of information.

The government pension list was used for the survey as it was the only available document that both reliably affirmed a person's status as elderly and reported that individuals name and village of residence. Of the 126 names appearing on the list, a representative sample of half was randomly drawn by selecting every second name.

2. Because some individuals did not answer every question completely, denominator data vary slightly from analysis to analysis. Percentages are calculated on the basis of the number of people who supplied usable responses rather than on the total number in the survey.

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