

## Living Arrangements of the Elderly in Fiji

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### ABSTRACT

*This paper examined the patterns and factors influencing the living arrangements of the elderly in Fiji. Very few studies have been undertaken on ageing and living arrangements of the elderly in Fiji and in the South Pacific. This study is expected to contribute to literature on ageing in the South Pacific and encourage further research in this area. Given the reduction in retirement age to 55 years in Fiji, a large number of the elderly was, as a result, relegated to below the poverty threshold. The situation is, therefore most likely to influence the living arrangements of elderly.*

*The study employed a multi-stage sampling procedure in urban areas to produce a sample of 411 while in rural areas a purposive selection of villages and settlements was made producing a sample 404 respondents. The respondents were aged 55 years and over. First, a bivariate analysis was used to establish the relationship between the socio-economic variables and living arrangements before a multinomial logistic regression model was employed to predict the extent of the contribution of selected socioeconomic variables on choice of living arrangements. A questionnaire was employed to elicit required data. The variables that were used in the study include: age, sex, current residence, ethnicity, marital status, education level, income level, number of children, decision making power and health.*

*Ethnicity and marital status are the two factors with the most influence on living arrangements of the elderly in Fiji. For instance, Indo-Fijians are most likely to live alone compared to Ethnic Fijians. Co-residence is common especially in the urban areas where cost of living is high. Married elderly mostly co-reside with their children whereas ever-married including singles are most likely to live alone. In general co-residence is still common among the majority of the elderly given their declined financial status on one hand and children dependent on their elderly parents on the other. The majority of the elderly in Fiji are not self-sufficient to provide accommodation and economic support for themselves in old age. Economic hardship is the main cause of cohabitation.*

*The family will continue to be the main unit looking after the elderly in Fiji and institutional care will continue to be provided by the charitable organizations.*

## 1. INTRODUCTION

In Fiji, as is happening worldwide, the population is ageing, a result of the demographic transition wherein declining fertility rates and improvement in social conditions such as education, health facilities, sanitary conditions, living standards and diet have played a crucial role in lowering mortality rate and increasing life span (Table 1).

Ageing has led to the shift in the age structure in Fiji. As displayed in Table 2 and Figures 1 and 2, children within the 0-14 age bracket were close to 50 per cent in 1956 and fifty years later, in 2007, had declined by 28 per cent.<sup>1</sup> The elderly population has not begun to increase rapidly as the benefits of a longer life span are still expanding the working-age population. Fiji is facing challenges that are concomitant with an ageing population. As the age structure changes the government may find itself having to plan for portions of the population previously cared for by other social mechanisms.

**Table 1:** *Life Expectancy at Birth for Fiji by Sex 1956–2007*

Period	Both Sexes (M & F)	Males	Females
1956	53	52	54
1966	58	56	59
1976	62	60	63
1986	67	65	69
1996	67	65	69
2007	68	65	70

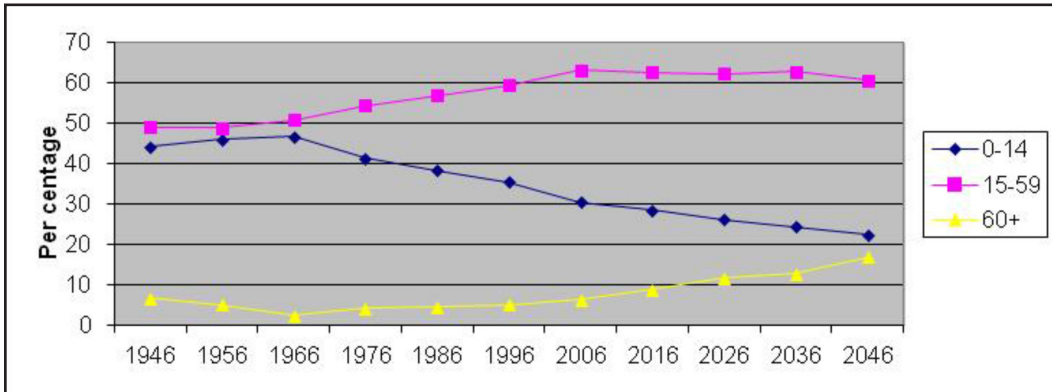
*Source: Fiji Island Bureau of Statistics, 2007.*

**Table 2:** *Distribution of population in Fiji by Broad Age Groups (%), 1956-2007.*

	1956	1966	1976	1986	1996	2007
0-14	159153	222739	241854	273463	274164	243121
15-29	91155	127023	175055	210788	212297	233357
30-44	52522	69633	95096	127194	160800	176361
45-59	25218	39023	51581	68535	88009	121492
60-74	13855	14001	19541	27241	32577	51038
75+	3415	4062	4230	5791	7230	11902

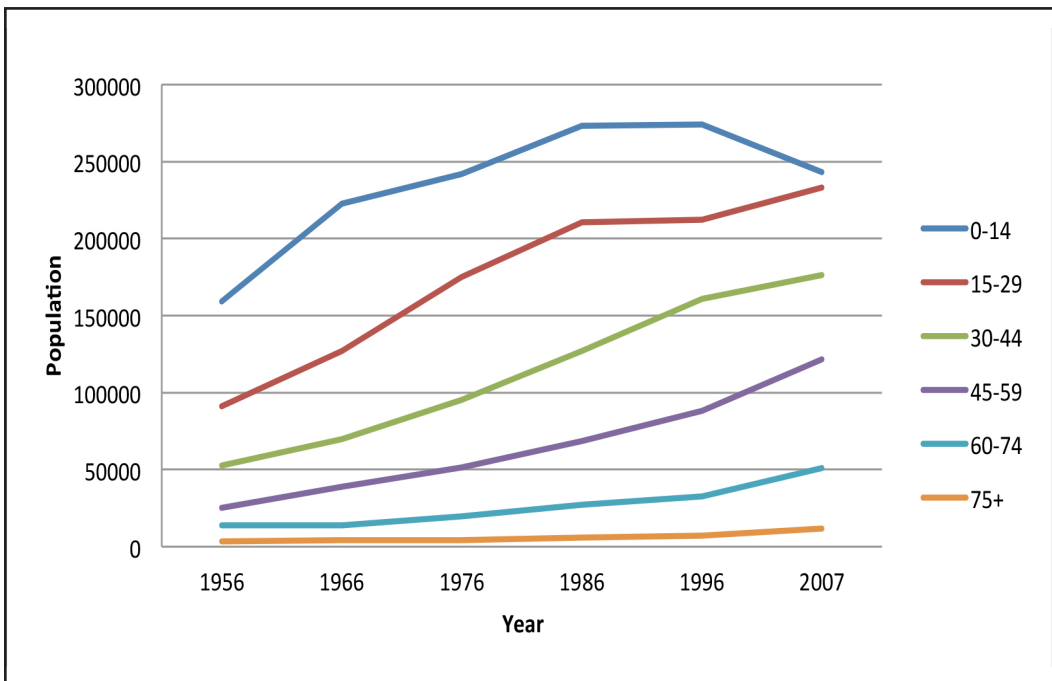
*Source: 2007 Census of Fiji Population, Fiji Island Bureau of Statistics*

**Figure 1:** Changes in proportions of broad age groups in Fiji 1946–2046



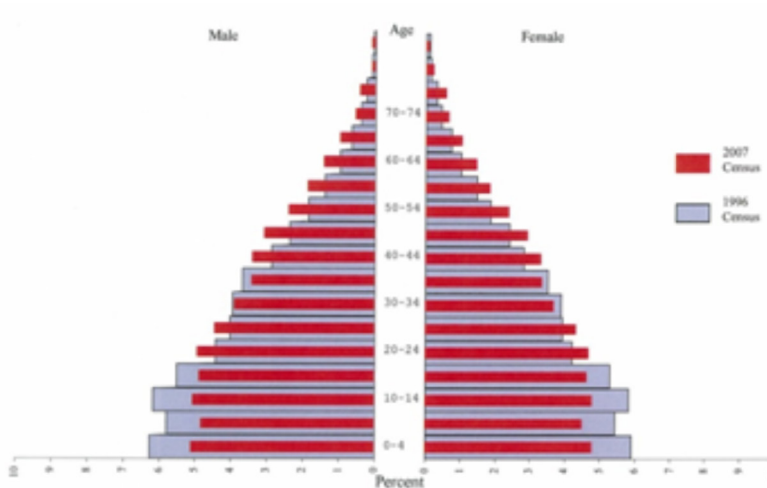
Source: Fiji Island Bureau of Statistics

**Figure 2:** Change in Fiji's Broad Age Group 1956- 2007



Source: Fiji Island Bureau of Statistics

**Figure 3:** Comparison of the proportional (%) Age–Sex structure of the Total Population in 1996 and 2007



**Source:** Fiji Islands Bureau of Statistics, 2008

The Fiji 2010-11 Employment and Unemployment Survey and the 2008-9 Household Income and Expenditure Survey (HIES) showed that the elderly dependency ratios increased in both the rural and urban areas. In addition the 2008-9 HIES also showed an increase in numbers of people between the ages 55-64 years and those over the age of 64 working for money given that the official retirement age is 55 years. Does this mean that the elderly are not in co-residence?

The 2011-12 HIES also showed that the average household size was 5.1 for Ethnic Fijians while the average household size for Indo-Fijians was 4. Does this mean that elderly are in co-residence with their children and their family? As such this study is interested in investigating the living arrangements of the elderly in Fiji given that numbers are expected to increase.

### 1.1. SOCIAL SECURITY SYSTEM IN FIJI AND LIVING ARRANGEMENTS OF THE ELDERLY

Old age is a difficult time, a phase of declining health, reduced income and for many the loss of significant responsibility. It is a time of sickness, infirmity and disability diminishing the capacity of the elderly to be financially independent or to earn an income. These problems create insecurity among the elderly and can lead to physical and mental illness or anxiety. In Fiji, social protection is provided in the first instance by the safety net of the extended family. The main other source of social security is the national provident fund scheme.

The Fiji National Provident Fund (FNPF) is a compulsory savings scheme in which the employee and the employer each pays in 8 per cent of the earnings of the employee. Two problems for social security in Fiji are that the scheme covers only a small proportion of the Fiji population and that the benefits that come with it are small. Many of those who are covered receive inadequate

benefits. In Fiji the formal sector accounts for about 28 per cent of the labour force and FNPF membership is compulsory for employees who work for more than two weeks per month and are under an employment contract. FNPF also covers those who are self-employed and domestic workers but their membership is voluntary and covers only one per cent of the labour force. Many people, on reaching 55 years, the required retirement age, are likely to have already withdrawn a significant portion of their provident fund savings for housing and education and have little left over to support them during retirement. This is an inevitable outcome of the provisions that exist for withdrawal of funds before retirement for reasons that include school fees, death benefits, disability and health insurance. Many, too, blind-sided by the 14 April 2009 lowering of the compulsory retirement age, find themselves unable to complete repayment agreements undertaken in the expectation of a longer working life. Furthermore, 72 per cent of the labour force, not being in formal employment, will not benefit from the FNPF scheme in their old age. Many older people in Fiji are therefore vulnerable to economic deprivation and inadequate provision of services. Because of the high level of economic dependency among the elderly many are in co residence with family members and relatives.

The new reforms (under the FNPF Decree, 25 November 2011) in the FNPF pension scheme have seen further reduction in the pay-out rates for the life pension. A life pension is a regular monthly payment paid out to the pensioner until his/her death. Changes to the scheme were seen as necessary to ensure that the Fund remains sustainable in the long term. For many, the pension received is inadequate to provide for decent housing or to sustain an elderly if living alone. As a result there is a high tendency for the elderly to co-reside. Expanding FNPF coverage and improving the benefits are long-term challenges for Fiji

Does the low economic status of the elderly explain why the majority of them are in co-residence as to living alone? This exploratory study will focus on the socioeconomic correlates of living arrangements for the elderly in Fiji with a view to raising awareness about their situation and drawing attention to areas possibly requiring future policy interventions. It is also hoped that this study will stimulate further research in this area.

## **2. EXPLANATIONS ON CHOICES OF LIVING ARRANGEMENTS FOR THE ELDERLY**

This section discusses the theory of modernization and how it applies to the living arrangements of the elderly. The elderly enjoy high status in traditional societies where they are accorded honor and respect and where their needs are met by their families. One of the most important attributes of both the Ethnic Fijians and the Indo-Fijians extended families is the acceptance of caring for the elderly population as an integral part of social relationships and interactions and in the roles and responsibilities different age groups undertake (Martin, 1989). However, Cowgill and Holmes (1972) have argued that rising levels of urbanisation and education has eroded the traditional safety net of the extended family welfare system.

Education and urbanisation among other things have led to changes in values across generations where multigenerational household needs are more likely to be based on the needs of the children than the needs of older family members (Cowgill & Holmes, 1972). Younger people, affected by education and exposure to a westernised global culture, only accommodate the elderly if the

elderly have something to contribute to the family. In many cases, the elderly are care givers to children and their grandchildren. The situation demonstrates how modernisation has entailed the promotion of nuclear living arrangements, and consequently undermined the continuation of the extended family living model.

Advancement in medical science has increased longevity, consequently extending the post-retirement life of the elderly. In developing Pacific Island countries including Fiji a significant proportion of the population who work, are employed in the public sector where the retirement age is 50 or 55 years. Life expectancy in Fiji is approximately 70 years. Social policies like welfare assistance and superannuation improved elderly financial well-being. However, the majority of the elderly in Fiji do not receive benefits as such. Even for elderly that have access to these funds, after retirement at 55 years, the majority of them do not save in superannuation funds and do not save enough to sustain them in their old age. As a result, there is a marked decline in the status of the elderly given their decline in financial status. The decline in financial status has led to more co-residency making pensions and housing for the elderly unnecessary.

It would be interesting to find out whether the customary source of support for the elderly has indeed been eroded, given that the numbers of the elderly in the population are rising and will, as far as can be foreseen, continue to do so. It is posited that when societies are modernised and urbanised, the households will tend to change from the large extended family to the nuclear type (United Nations, 1973). In the process, there will be a weakening of ties with the elderly (Goode, 1963). This translates to separate living arrangements for the elderly, as physical and monetary support decline: as a country develops, the trend will be for the elderly to live separately from their family.

It would also be increasingly pertinent to determine whether there will be co residency among the elderly given their high level of economic dependency.

### **3. OBJECTIVES**

This paper's broad objective is to examine the effects of demographic, social, economic, and health factors on the living arrangements of the elderly in Fiji.

The specific objectives are:

- to examine the patterns of living arrangements of the elderly in Fiji -whether the traditional form of living arrangement where elderly live with their extended family is still continuing or whether the elderly are living alone.
- to examine factors that are likely to influence the living arrangements of the elderly in Fiji, such as age, sex, education, marital status, number of children, health status, place of residence, income and decision making power
- to determine the magnitude of the effects of age, sex, education, marital status, number of children, health status, usual place of residence, income and decision-making power on the living arrangements of the elderly in Fiji- whether these factors influence the elderly to live alone or co-reside with others.

## **4.0 METHODS AND DATA**

### **4.1. STUDY AREA**

This was a national survey and the paper identifies the elderly as those who have reached 55 years and above, the base age aligning with the current Fiji government retirement age.

### **4.2 DATA COLLECTION**

The research approach is quantitative, involving collection and statistical analysis of survey responses. A number of enumerators allocated to the various localities selected for this study administered the semi-structured questionnaires to a sample population of 815 elderly people.

The population and sampling frame for the study is that portion of the population which was 55 years and older in Fiji during the 2007 Census of Housing and Population. According to the census result (2007), Fiji's population stood at 837,271. The portion of the population 55 years and over at that time numbered 94,101, making up approximately 11 per cent of Fiji's total population. The survey sample was 815. A multi stage sampling procedure was employed in urban areas to produce a sample. In rural areas a purposive selection of villages and settlements was made producing a sample.

The urban sample for the elderly population was 411 (50.4 per cent). This was distributed to 7 major urban areas in proportion to sex, ethnicity and five year age groups. The rural sample was 49.6 per cent. This rural sample was distributed to the six major provinces in Fiji in proportion to sex, ethnicity and five year age groups.

### **4.3 DATA ANALYSIS**

At the bivariate level, simple descriptive methods of analysis were used. This statistical tool was used to establish the determinants of living arrangements of the elderly in Fiji. The unit of analysis is the elderly individual. At the multivariate level, multinomial logistic regression model was employed to predict the contribution of the different socioeconomic variables on choice of living arrangements. The logistic regression method was used because the variables in the study were mostly categorical variables.

The selected socioeconomic and demographic characteristics used in the study include age, sex, marital status, number of children, property ownership, place of residence, healthy status and education. Living arrangements are defined as living alone and or in co-residence with other family members.

### **4.4 LIMITATIONS**

The major challenge of the survey was during data collection. In the midst of enumeration, data collection was hampered and delayed due to the flooding of Ba town.

Another challenge was experienced when one of the two enumerators left midway during the survey process. This seriously affected the situation as the enumerators – an Ethnic Fijian and an Indo Fijian interpreted the questions into simple Fijian and Hindustani, respectively, for those who were not fluent in English. This was addressed hiring other enumerators.

Thirdly some of the elderly respondents refused to disclose their income and many provided approximations of their income.



## 5.0. THE PROFILE OF THE ELDERLY IN FIJI

**Table 3:** Selected socio-economic characteristics of the Elderly in Fiji

Socio-demographic characteristics	Urban n = 411 (%)	Rural n = 404 (%)	Total n = 800 (%)
Age			
55-59yrs	117 (14.4)	169 (20.7)	286 (35.1)
60-69yrs	201 (24.7)	150 (18.4)	351 (43.1)
70-79yrs	79 (9.7)	69 (8.5)	148 (18.2)
80+	14 (1.7)	16 (2.0)	30 (3.7)
			0.001*
Gender			
Males	207 (25.4)	220 (27.0)	427 (52.4)
Females	204 (25.0)	184 (22.6)	388 (47.6)
P Value=			0.242
Ethnicity			
Ethnic Fijians	225 (27.6)	278 (55.3)	503 (61.7)
Indo Fijians	186 (22.8)	126 (15.5)	312 (38.3)
			0.000*
Marital Status			
Currently Married	290 (35.6)	266 (32.6)	556 (68.2)
Ever Married & Single	121 (14.8)	138 (16.9)	259 (31.8)
			0.148
Living Arrangements			
Living Alone	121 (14.8)	152 (18.7)	273 (33.5)
Living with Others	290 (35.6)	252 (30.9)	542 (66.5)
			0.013*
Number of Children			
0-3	240 (33.2)	194 (26.9)	434 (60.1)
4-6	116 (16.1)	121 (16.8)	237 (32.8)
>6	34 (4.7)	17 (2.4)	51 (7.1)
			0.049*
Income			
<FJD15,000 per year	382 (46.9)	397 (48.7)	779 (95.6)
>FJD15,000 per year	29 (3.6)	7 (0.9)	36 (4.4)
			0.000*
Education Qualification			
<Primary Education	226 (27.7)	291 (35.7)	517 (63.4)
>Secondary Education	185 (22.7)	113 (13.9)	298 (36.6)
			0.000*
Health Status			
Not so healthy	102 (12.5)	115 (14.1)	217 (26.6)
Healthy	170 (20.9)	187 (22.9)	357 (43.8)
Very Healthy	139 (17.1)	102 (12.5)	241 (29.6)
			0.027*
Makes Decisions			
No	94 (11.5)	65 (8.0)	159 (19.5)
Yes	317 (38.9)	339 (41.6)	656 (80.5)
			0.015*

**\*Shows significant association on the basis of Pearson's chi square test.**

Source: Working Elderly Survey, 2011–2012

A sample of 815 participants completed the study. The elderly who were interviewed were in the age range 55–89 (Table 3). Ethnic Fijians and Indo-Fijians were interviewed in approximately 60 per cent and 40 per cent proportions, which are similar to the distribution of the two groups in the total population recorded in the 2007 census. The proportion of the older urban residents interviewed was higher for Indo-Fijians than Ethnic Fijians, whereas the proportion of the rural elderly interviewed was higher for Ethnic Fijians than for Indo-Fijians. Approximately 25 per cent were widows, less than 10 per cent were either single or divorced, and more than two-thirds were currently married. The largest proportion of the elderly, accounting for approximately 31 per cent, was cohabiting with their spouse and children. Approximately 7 per cent were living alone; co-residency was more common in the urban areas than in the rural areas. Almost 12 per cent of the interviewees had had no education. The majority of the elderly reported being educated up to primary level of education. At least 12 per cent had received tertiary level education. Close to 40 per cent of the elderly were working, about one-third were employed in the informal sector and the remainder were self-employed who had self-owned businesses such as running small canteens, commercial farming at the community level and selling self-produced goods like handicrafts, kava and homemade sweets. The urban elderly were more likely to be engaged in administrative, unskilled and professional jobs, as compared to the rural elderly, who were self-employed. Most of those interviewed were living below the poverty threshold of FJD15, 000, and were mainly rural residents. Of all the elderly who were earning above the poverty threshold, the majority were urban residents. The typical Fijian senior citizen is someone with primary education, in casual employment and co-residing with family and other relatives. In addition he or she is likely to suffer from some form of disability which is accompanied by diabetes and or hypertension.

## 6.0 RESULTS: SOCIO-ECONOMIC CORRELATES OF LIVING ARRANGEMENTS OF THE ELDERLY

**Table 4:** Pattern of Living Arrangements by demographic and socio-economic variables

SOCIO-ECONOMIC VARIABLES	Ethnic Fijians (%)				Indo-Fijians (%)			
	Living Alone	Living with spouse, children & children's family	Living with children only	Living with other family members	Living Alone	Living with spouse, children & children's family	Living with children only	Living with other family members
Gender								
Males	26.5 (69)	43.1 (112)	22.7 (59)	7.7 (20)	44.3 (74)	28.7 (48)	24.0 (40)	3.0 (5)
Females	29.6 (72)	34.6 (84)	25.9 (63)	9.9 (24)	40.0 (58)	26.2 (38)	28.3 (41)	5.5 (8)
	0.263				0.519			
Age								
55-64	36.3 (110)	36.0 (109)	17.2 (52)	10.6(32)	49.5(92)	25.3 (47)	18.8 (35)	8.5 (12)
65-74	38.1 (59)	25.2 (39)	24.5 (38)	12.3 (19)	48.3 (42)	17.2 (15)	26.4 (23)	8.0 (7)
75+	20.0 (9)	8.9 (4)	55.6 (25)	15.6 (7)	30.8 (12)	10.3 (4)	56.4 (22)	2.6 (1)
	0.001*				0.001*			
Marital Status								
Currently Married	21.1 (106)	36.2 (182)	7.2 (36)	1.6 (8)	35.9 (112)	26.3 (82)	8.3 (26)	1.3 (4)
Ever Married and Single	7.0 (35)	2.8 (14)	17.1 (86)	7.2 (36)	6.4 (20)	1.3 (4)	17.6 (55)	2.9 (9)
	0.000*				0.000*			
Area of Residence								
Urban	31.6 (71)	38.2 (86)	18.2 (41)	12.0 (27)	41.9 (78)	25.8 (48)	24.7(46)	7.5(14)
Rural	38.5 (107)	23.7 (66)	26.6 (74)	11.2 (31)	54.0 (68)	14.3 (18)	27.0 (34)	4.8 (6)
	0.003*				0.044*			
Education Qualification								
Primary Education or Less	37.0 (112)	27.4 (83)	25.1 (76)	10.6 (32)	42.5 (91)	20.6 (44)	31.3 (67)	5.6 (12)
Secondary Education or more	33.0 (66)	34.5 (69)	19.5 (39)	13.0 (26)	56.1 (55)	22.4 (22)	13.3 (13)	8.2 (8)
	0.186				0.007*			

**Table 4:** Pattern of Living Arrangements by demographic and socio-economic variables

SOCIO-ECONOMIC VARIABLES	Ethnic Fijians (%)				Indo Fijians (%)			
	Living Alone	Living with spouse, children & children's family	Living with children only	Living with other family members	Living Alone	Living with spouse, children and children's family	Living with children only	Living with other family members
Income Level								
<\$3000	29.2 (86)	33.2 (98)	28.1 (83)	9.5 (28)	40.0 (74)	23.8 (44)	31.4 (58)	4.9 (9)
\$3000-\$9000	25.7 (35)	46.3 (63)	19.1 (26)	8.8 (12)	50.5 (48)	29.5 (28)	18.9 (18)	1.1 (1)
\$10000-\$14000	27.7 (13)	48.9 (23)	19.1 (9)	4.3 (2)	28.6 (6)	52.4 (11)	14.3 (3)	4.8 (1)
≥\$15000	28.0 (7)	48.0 (12)	16.0 (4)	8.0 (2)	36.4 (4)	27.3 (3)	18.2 (2)	18.2 (2)
	0.196				0.011*			
Health Status								
Not so Healthy	5.4 (27)	7.4 (37)	8.9 (45)	3.0 (15)	11.2 (35)	5.1 (16)	11.5 (36)	1.9 (6)
Healthy	12.1 (61)	16.9 (85)	10.5 (53)	3.6 (18)	18.9 (59)	15.4 (48)	9.0 (28)	1.6 (5)
Very Healthy	10.5 (53)	14.7 (74)	4.8 (24)	2.2 (11)	12.2 (38)	7.1 (22)	5.4 (17)	0.6 (2)
	0.001*				0.009*			
Number of Children								
0-3	34.8 (87)	36.8 (92)	17.6 (44)	10.8 (27)	44.0 (81)	29.3 (54)	22.3 (41)	4.3 (8)
>3	30.4 (62)	28.9 (59)	33.3 (68)	7.4 (15)	35.7 (30)	11.9 (10)	46.4 (39)	6.0 (5)
	*0.001				*0.000			
Decision Making								
No	34.7 (33)	21.1 (20)	26.3 (25)	17.9 (17)	50.0 (32)	20.3 (13)	23.4 (15)	6.3 (4)
Yes	35.5 (145)	32.4 (132)	22.1 (90)	10.0 (41)	46.0 (114)	21.4 (53)	26.2 (65)	6.5 (16)
	0.046*				0.948			

**\*Shows significant association on the basis of Pearson's chi square test.**

Source: Working Elderly Survey, 2011–2012

Table 4 shows living arrangements of the elderly in Fiji by ethnicity and by the different socio-economic and demographic variables including age, marital status, living children, place of residence, education level, decision-making power, economic status and health.

## AGE

In table 4, age has been categorized into three categories; the youngest old- 55-64 years, the middle old- 65-74 years and the oldest old-75years old and above. The table also shows that as age increases, the proportion of the elderly living alone declines and co-residency increases. This is consistent with a study by Panigrahi (2009) on the determinants of living arrangements of the elderly in Orissa.<sup>2</sup> Panigrahi found that the proportion of the elderly living alone decrease as age increases. As one grows older, the prevalence of chronic disease and disability also increases, hence the need for co-residence (Andrade and De Vos, 2002). Nevertheless, this finding differs from the study conducted by Martin (1989) who found that age has a significantly negative effect on living with children in Fiji, Malaysia and the Philippines; ageing results in a lower likelihood

of the older people in these countries living with their children.

## **AREA OF RESIDENCE**

Co-residency is more common in urban areas than rural areas as elderly people in rural areas are more likely to live alone. This is consistent with Mba's (2002) findings in Lesotho, United Nations (2005) and Chaudhuri and Kakoli (2007) that elderly residents of rural areas are more likely to live alone than their counterparts in urban areas. In Korea, Malaysia and the Philippines, living in an urban area correlates highly with living with adult children (Andrews et al., cited in Martin, 1989, p. 634). A possible explanation for the high level of co-residency among the urban elderly in Fiji would be the high cost of living, especially the costs of housing, food and water. Given that the majority of the elderly are surviving below the poverty threshold, they are most likely to be dependent on their children or other kin for economic support.

Elderly Ethnic Fijians are most likely to be in co-residence compared to elderly Indo-Fijians. Although both ethnic groups are known for strong kinship bonds (Martin, 1989), Ethnic Fijians kinship is more broadly defined and there is a stronger sense of communalism among Ethnic Fijians compared to Indo-Fijians. This is demonstrated in the high level of co-residency among Ethnic Fijians. For many Indo-Fijians, in Fiji the depth of genealogical connection does not even go back to 1879. This diminishes the size of the potential extended family pool among Indo-Fijians.

## **MARITAL STATUS**

Marital Status has been categorised into the following groups; Currently Married and Ever Married. Ever Married includes the divorced, separated and the widowed. Singles has been included in the Ever Married due to a relatively small sample size. Table 4 shows that co-residence is less common among the ever married and the single elderly in both urban and rural areas. It was also noted that few ever married elderly people who are widowed are more likely to live with children (approximately 64 per cent) and 46 per cent out of this proportion are widows. Table 4 shows that currently married elderly are most likely to live in an extended family. Almost 40 per cent of the married elderly are co-residing with their spouse and other kin. This finding is consistent with Saad (1998) whose study found that residence with children is higher among females.

## **EDUCATION ATTAINMENT**

Table 4 shows that education qualification is grouped into the following two categories; Primary Education or Less and Secondary Education or more. The table shows that elderly people with secondary and higher education are more likely to live alone than those with primary education and less. This is consistent with Mba's (2002) study which found that the female elderly with secondary and higher education are more likely to live alone than their counterparts with primary education. Barbieri (2006) found that in Vietnam the literate elderly are less likely to be living with a child than their illiterate counterparts. As education level increases the proportion of the

elderly living alone also increases. Modernisation is influencing the living arrangements of the elderly.

## **ECONOMIC STATUS**

The income level of the elderly is categorised into four income levels; earning of \$3000 or less, \$3000- \$9000, \$10,000-\$14,000 and earning of \$15000 or more. Table 4 shows that the majority of the Ethnic Fijians elderly in the lower income brackets are in co-residence and they are most likely to be living with their spouse, children and their children's family or else with their children only. In contrast, the majority of the Indo-Fijians elderly live alone regardless of their income brackets.

A possible reason for the high level of co-residence with children and their children's family among the elderly Ethnic Fijians would be the inability of children or other family members to afford the cost of housing. According to De Vos (1989) grown children in Latin America prefer to live separately but this preference is constrained by the capacity to afford housing. It appears that the situation is similar in Fiji, where the Ethnic Fijians elderly couple may provide housing to their children who are working but do not have enough resources to purchase a house. An important variable that could have been used to capture this relationship more effectively is children's income but data on this was not collected in this survey.

The likelihood of co-residence is higher among all elderly persons. Living arrangements of the elderly is dependent on their income status. The elderly in the urban areas are most likely to co-reside because of the increase in the cost of living, for housing among other basic necessities. The high cost of accommodation has led to children of the elderly relying on them for shelter. This is more common among elderly Ethnic Fijians who are living with their children and extended family members. Davis and van den Oever (1981), Michael, Fuchs and Scott (1980) and Pampel (1983) indicated that affordability is a crucial determinant of living arrangements. Beresford and Rivlin (1966) indicated that the probability of living alone is phrased as: only those who can afford it will actually 'purchase privacy' by living in a single person household.

In this survey, the elderly without any source of income and living alone are specifically the Ethnic Fijians elderly in the rural areas. These elderly folk depend entirely on subsistence farming. In addition, elderly Ethnic Fijians dwelling in rural areas have children also residing in the same villages and they look after their parents. While the elderly may own the property, working children are responsible for meeting the needs of the household.

It was also observed that income is unequally distributed among the people of Fiji, as almost all the elderly in the study are living below the poverty line of FJD15, 000 a year. According to Andrade and De Vos<sup>3</sup> poverty is associated with less independent residence. This would be one of the main explanations for the high level of co-residency among the elderly in Fiji.

Elderly people who were previously engaged in the informal sector in many cases worked on a temporary and casual basis; consequently, they face inadequate or no savings at the end of their working life. Inadequate savings is a likely contributor to the high level of co-residency among the elderly. This analysis, then, supports the explanation that income disparity has resulted in

the high level of co-residency among the elderly in Fiji. The incapacity of the elderly to support themselves economically has perpetuated the traditional pattern of co-residence among the elderly.

## **HEALTH STATUS**

A health index was created using the following variables; use of medication, insurance, terminal illness, disability. Each variable was assigned a value of 2 and the values were summed up to yield a total score of 8. The scale ranges from 0-8 where 0 represents the least healthy and 8 represent the healthiest. A respondent, who does not take medication, is not insured, does not have terminal illness or disability is classified as very healthy with a score between 6-8. A healthy respondent will have a score of 4-6 while an elderly that is not so healthy will have a score between 0-3. These health categories can be seen in Table 4.

The very healthy Ethnic Fijians are most likely to live with their spouse, children and children's family. On the other hand, the very healthy Indo Fijians are most likely to live alone. In urban areas, the very healthy elderly that are living alone are mostly likely to be Indo-Fijians. These elderly are most likely to be self sufficient and have their children residing overseas. Similarly the healthy Ethnic Fijians are most likely to live with their spouse, children and children's family while the very healthy Indo Fijians are most likely to live alone.

For both ethnic groups elderly that are not so healthy are most likely to be living with their children. Allen and others (2000) stated that elderly people who are co-residing with their children may feel less lonely and thus, less likely to be depressed than those living alone. Palloni (2001) also mentioned that elderly people who were previously ill may have recovered after moving into their children's home. Poor health status and disability decrease the likelihood of living independently at older ages and increase the likelihood that an elderly individual will co-reside with a child (Andrade & De Vos).<sup>4</sup>

From the study it was noted that the not-so-healthy elderly without income are most likely to live with their children. On the other hand, the not-so-healthy elderly with income are most likely to live alone. The elderly with no source of income are most likely to be dependent on their children to finance health and other costs. The elderly in the study indicate that they also suffer from diseases like arthritis, gastritis, blood pressure, diabetes and asthma. Prevalence of eye and hearing problems among the elderly is also observed. These diseases require treatment and medication, and in turn put additional pressure on public health services that are already limited and uncertain. As a consequence, the elderly tend to depend on their children to finance their medication and treatment, including purchasing of medication from private pharmacists and private health care consultation.

## **CHILDREN**

The number of children of the elderly is categorised into two groups; 0-3 and 4 or more children. Table 4 shows that elderly with children are most likely to co-reside with their children only. Among the Ethnic Fijians elderly, the majority of the elderly with 0-3 children cohabit with the

spouse, children and children's family. On the other hand, the majority of the Indo Fijian elderly with 0-3 children live alone. The Ethnic Fijians and Indo Fijians elderly with 4 or more children are most likely to live with their children.

## DECISION-MAKING

Table 4 categorises decision making of the elderly into two categories; the elderly that makes decision in the household and those elderly that do not make any decision in the household. The table shows that among all the elderly who are the decision makers, the largest proportion accounts for elderly people who are living alone. The elderly who are living with spouse and other family members are not the ones who make most of the decisions in their household. It was noted that the relationship of the older person to the head of household strongly correlates with the respondent's decision-making power and living arrangements. In this study, the majority of the elderly are most likely to be co-residing with their adult children; nevertheless, although they own the property or house that they live in and are considered to be the head of their household, a number of the elderly mentioned that they do not in fact make decisions in the house as they do not earn income. This is taken as evidence in this study that the role of the elderly as head of the family is determined by their income status rather than out of respect for their seniority, experience or greater wisdom. Decision-making power is reverting from the elderly to younger members of the household. The majority of the interviewed rural elderly residing with their adult children mentioned that their role is restricted to giving advice to their children; decisions on financial matters are made by their adult children themselves since the children are breadwinners in the family. On the other hand, most of the adult children continue to reside in their parents' property because they cannot afford the high cost of housing.

## MULTIVARIATE ANALYSIS: RESULTS AND DISCUSSION

### MULTINOMIAL LOGISTIC REGRESSION

A multinomial logistic regression analysis was employed to determine the magnitude of effects of each variable on living arrangements. As in the bivariate analysis, the dependent variable was living arrangement of the elderly. The explanatory variables in the model included age, sex, marital status, number of children, place of residence, ethnicity, level of education, income level, property ownership, decision-making power, and health status. The result of the multinomial logistic regression analysis is presented in table 5.



**Table 5:** Results of the multinomial logit regression of living arrangements of the elderly in Fiji

Independent Variables	'Living Alone' vs 'Living with Other Family Members or Relatives'		'Living with Spouse, Children and Children's Family' vs 'Living with other family members or Relatives'		'Living with Children' vs 'Living with other family members or Relatives'	
	Odds Ratio	P>z	Odds Ratio	P>z	Odds Ratio	P>z
<b>Gender</b>						
Female (Ref)	1.000		1.000		1.000	
Male	0.513	0.120	0.593	0.225	0.738	0.465
<b>Area of Residence</b>						
Rural (Ref)	1.000		1.000		1.000	
Urban	0.355	0.041	0.687	0.458	0.224	0.003
<b>Ethnicity</b>						
Indo-Fijians(Ref)	1.000		1.000		1.000	
Ethnic Fijians	0.120	0.000	0.295	0.036	0.000	0.109
<b>Marital Status</b>						
Married (Ref)	1.000		1.000		1.000	
Ever Marr & Single	0.072	0.000	0.020	0.000	0.747	0.537
<b>Age Group</b>						
80+ (Ref)	1.000		1.000		1.000	
55-59	1.656	0.619	4.317	0.168	2.048	0.459
60-69	0.955	0.961	2.100	0.459	0.878	0.885
70-79	4.892	0.163	9.125	0.062	5.188	0.132
<b>Education Qualification</b>						
Tertiary Education (Ref)	1.000		1.000		1.000	
No Education	0.174	0.034	0.585	0.519	0.404	0.256
Primary Education	0.649	0.532	1.635	0.485	1.170	0.820
Secondary Education	0.278	0.070	0.556	0.410	0.531	0.373
<b>Number of Children</b>						
>6 (Ref)	1.000		1.000		1.000	
0-3	0.509	0.563	0.321	0.316	0.091	0.029
4-6	0.493	0.552	0.279	0.268	0.134	0.072
<b>Own Property</b>						
Yes(Ref)	1.000		1.000		1.000	
No	0.358	0.025	0.305	0.011	0.705	0.425
<b>Income Level</b>						
>FJD15000 (Ref)	1.000		1.000		1.000	
≤FJD15000	1.893	0.286	1.252	0.704	1.495	0.494
<b>Health Status</b>						
Very Healthy (Ref)	1.000		1.000		1.000	
Not so Healthy	0.406	0.161	0.271	0.046	0.592	0.400
Healthy	0.374	0.043	0.355	0.033	0.437	0.082

*The reference category is living with Relatives.*

*Pseudo R<sup>2</sup> = 0.434*

*Source: Working Elderly Survey, 2011-2012*

The results shown in Table 5 confirm that after controlling for different demographic, social, economic and health background variables, the following variables emerge as statistically significant in explaining the living arrangements of the elderly in Fiji: marital status, area of residence, ethnicity, property ownership and health status.

*'Living Alone' vs 'Living with Other Family Members or Relatives'*

For this older group, males compared to females are less likely to be living alone than with other family members or relatives. Urban elderly people compared to the rural elderly are less likely to live alone than with other family members or relatives. Ethnic Fijians elderly compared to Indo-Fijians elderly are less likely to live alone than with other family members or relatives. Ever married and single elderly individuals compared to the currently married elderly are less likely to live alone than with relatives. Elderly persons aged 55–59 years and 70–79 years compared to elderly who are 80 years and above are more likely to live alone than with other family members or relatives. Those who are 60–69 years compared to the elderly who are 80 years and above are equally likely to live alone as with other family members or relatives. Those without any education compared to the elderly with tertiary education qualification are less likely to live alone than with other family members or relatives. The elderly with primary education compared to those with tertiary education are less likely to live alone than with other family members or relatives while those with secondary education compared to those with tertiary education are less likely to live alone than with other family members or relatives. Older people with 0–3 children compared to the elderly with more than six children are less likely to live alone than with other family members or relatives, while elders with 4–6 children compared to elders with more than 6 children are less likely to live alone than with other family members or relatives. The elderly with adult children are more likely to live alone in their own property and are independent of their children. In addition, children would have moved out of their parents' home after education, marriage, securing employment and having purchased a home. Another possible explanation would be the migration of children overseas; this is primarily true for the Indo-Fijian elderly. The elderly in urban areas are more likely to be in co-residence as a response to increased housing and food costs.

The elderly earning less than FJD15,000 per year compared to those earning more than FJD15,000 per year are more likely to live alone than with other family members or relatives. Older people who are not so healthy compared to the elderly that are very healthy are less likely to live alone than with relatives, while the elderly who are healthy, in comparison to the elderly who are very healthy, are less likely to live alone than with relatives.

*'Living with Spouse, Children and Children's Family' vs 'Living with other family members or Relatives'*

Older males compared to older females are less likely to live with spouse, children and children's family than to live with other family members or relatives. The urban elderly compared to the rural elderly are less likely to live with spouse, children and children's family than with other family members or relatives. Elderly Ethnic Fijians compared to elderly Indo-Fijians are less likely to live with their spouse, children and children's family than with other family members or relatives. Ever married elderly people compared to currently married elderly ones are less likely to live with spouse, children and children's family than to live with relatives. Elderly people aged 55–59 years, 60–69 years and 70–79 years compared to those aged 80 years and above are more likely to live with spouse, children and children's family than to live with relatives. The elderly without any education compared to the elderly with tertiary education are less likely to

live with spouse, children and children's family than with other family members or relatives. The elderly with primary education compared to those with tertiary education are more likely to be living with spouse, children and children's family than with other family members or relatives. Those with secondary education compared to those with tertiary education are less likely to live with spouse, children and children's family than with other family members or relatives. As education level increases the likelihood of co-residence decreases. Andrade and De Vos (2002), Bongaarts and Zimmer (2001), Pal (2004), Martin (1989) and Shah and others (2002) derived similar results that co-residence decreases as education level increases.

Senior citizens with 6 children or less compared to those with more than 6 children are less likely to live with spouse, children and children's family than living with other family members or relatives. Those that do not own a property compared to those that own a property are less likely to live with spouse, children and children's family than with other family members or relatives. The elderly earning FJD15,000 per year or less, compared to those earning more than FJD15,000 per year, are more likely to live with spouse, children and children's family than with other family members or relatives. It is less likely that the poor elderly retain headship status in the household. The loss of the elderly status as head of the household may translate to power loss and control over their income and food consumption. There is a need to know how headship is being passed on from surviving elderly parents to their offspring. It is therefore imperative to understand better the distinctive features of the children who co-reside with their older parents, and in particular the income of the children and their employment status.

Those of the elderly who are not so healthy, compared to those who are very healthy, are less likely to live with spouse, children and children's family than to live with other family members or relatives. Those who are healthy compared to very healthy elderly are less likely to live with spouse, children and children's family than to live with other family members or relatives.

*'Living with Children' vs 'Living with other family members or Relatives'*

Males compared to females in the older age groups surveyed are equally likely to live with their children as with relatives. Urban elderly compared to rural elderly people are less likely to live with children than with relatives and other family members or relatives. Ethnic Fijians elderly compared to Indo-Fijian elderly people are less likely to live with children than to live with other family members or relatives. Before the onset of 'coup culture', Nair (1985) found that Ethnic Fijians are most likely to be circular migrants and Hoefnagel (1977) that Ethnic Fijian couples are more likely to separate; hence for all these reasons, there is less co-residence with children among Fijians. Ever married elderly people compared to those currently married are equally likely to live with their children as with other family members or relatives. Those aged 55–59 years compared to those who are 80 years and over are more likely to live with their children than with other family members or relatives, while those who are 60–69 years compared to those who are 80 years and above are equally likely to live with children as with their other family members or relatives and those in the 70–79 years category, compared those who are 80 years and above, are more likely to live with their children than with their other family members or relatives. Elderly people without any education compared to those with tertiary education are less likely to live with their children than with their other family members or relatives. Those

with primary education compared to those with tertiary education are more likely to live with their children than with their other family members or relatives. Those with secondary education compared to those with tertiary education are less likely to live with their children than with their other family members or relatives. Older people with no or up to 3 children, compared to those with more than 6 children, are less likely to live with their children than with their other family members or relatives and those with 4–6 children when compared to the group with more than 6 children, are less likely to live with children than with their other family members or relatives. Elderly individuals that do not own a property compared to those who do, are less likely to be living with children than with their other family members or relatives. If earning FJD15,000 a year, compared to earning above FJD15,000 a year, seniors are more likely to live with children than with their other family members or relatives. Elderly people who were not employed before reaching 55 years of age are more likely to co-reside. On the other hand, elderly people who were employed before reaching 55 are more likely to have adequate savings and to live alone or in households where they are the head and decision maker. Nevertheless, it is most likely that constraints in Fiji's pension system will change this situation, as a result of an extensive cutback in pensions. At such a time, children, though not enthused, will become main care givers to their elderly parents. Elderly that are not so healthy compared to very healthy elderly are equally likely to live with children as with relatives and elderly that are healthy compared to the elderly that are very healthy are less likely to live with children than with their other family members or relatives.

## **CONCLUSION**

This paper has examined the patterns and the factors that are likely to influence the living arrangements of the elderly in Fiji. As age increases, the proportion of the elderly living alone declines and co-residency increases. Co-residency is more common in the urban areas than in the rural areas. The elderly people in rural areas tend to live alone. Co-residence is more common in the urban areas because of high cost of living. Elderly Ethnic Fijians are most likely to be in co-residence compared to elderly Indo-Fijians. The traditional living arrangements where elderly co-reside with their extended family is still common among the Ethnic Fijians in rural areas. In the urban areas the reasons for co-residence is twofold- the elderly may rely on their children or other family members for sustenance. Conversely, children also rely on their parents for housing because of high cost of living.

Co-residence is less common among ever-married and single elderly. Ever married elderly and the singles are most likely to be living alone while the currently married elderly are most likely to live in multigenerational households. The currently married elderly are most likely to live with at least a child and child's family. Elderly persons with secondary and higher education are mainly living alone. Highly educated elderly are most likely to have had a good employment prior to retirement and could afford to live on their own.

The majority of the Ethnic Fijian elderly in the lower income brackets are in co-residence and they are most likely to be living with their spouse, children and their children's family or else with their children only. In contrast, the majority of the Indo-Fijian elderly live alone regardless

of their income brackets. The very healthy Ethnic Fijians are most likely to live with their spouse, children and children's family. On the other hand the very healthy Indo Fijians elderly are most likely to live alone. In the urban areas the very healthy elderly that are living alone are most likely to be Indo Fijians. Similarly healthy Ethnic Fijians elderly have the tendency to live with their spouse, children and children's family while the very healthy Indo Fijian elderly are most likely to live alone. Elderly from both the ethnic groups' that are not so healthy would be living with their children.

Among all the elderly who are decision makers, the largest proportion accounts for elderly people who are living alone. The elderly who are living with spouse and other family members are not the ones who make most of the decisions in their household. It was noted that the relationship of the older person to the head of household strongly correlated with respondent's decision-making power and living arrangements.

The regression result shown in Table 5 is consistent and supports the explanations above. The paper has also established the magnitude of the effects of the socio-economic variables on the living arrangements of the elderly in Fiji. Area of Residence, Ethnicity, Marital Status and Health Status are all significant in determining the living arrangements of the elderly in Fiji. While the above socio-economic variables are significant in explaining the living arrangements of the elderly in Fiji, Ethnicity and Marital Status are the most influential factors.

Until the economic hardships and deprivation among the elderly in Fiji is addressed by the government, institutional care will always be a charity service in Fiji.

## ENDNOTES

<sup>1</sup> Fiji Islands Bureau of Statistics, *Statistical News*, No. 45, 2008.

<sup>2</sup> <http://www.isec.ac.in/WP%20228%20-%20Akshaya%20Kumar%20Panigrahi.pdf>.

<sup>3</sup> [http://www.abep.nepo.unicamp.br/docs/anais/pdf/2002/Com\\_ENV\\_ST23\\_Andrade\\_texto.pdf](http://www.abep.nepo.unicamp.br/docs/anais/pdf/2002/Com_ENV_ST23_Andrade_texto.pdf).

<sup>4</sup> [http://www.abep.nepo.unicamp.br/docs/anais/pdf/2002/Com\\_ENV\\_ST23\\_Andrade\\_texto.pdf](http://www.abep.nepo.unicamp.br/docs/anais/pdf/2002/Com_ENV_ST23_Andrade_texto.pdf).

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