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ROTUMA, A CHANGING MOBILITY:

1978 - 1983

A thesis presented in partial fulfilment
of the requirements for the degree
of Master of Arts
in Geography at
Massey University

ABSTRACT

This work describes the changes in movement of people to and from Rotuma immediately before, and following, the establishment of an airport on the Island in May 1981. A sample survey was carried out during the middle of 1983 to gain field data. The dynamics of movement are investigated and the research examines whether any subsets within the Rotuman community had a higher or lower level of movement, by sex, age, religion, education or occupation during the period 1978-1983.

PREFACE

Rotuma first came to the author's attention in 1976 when he began a correspondence with an adolescent Rotuman Islander as a study aid for the School Certificate Geography Examination.

Since that time the author's interest in Rotuma has steadily grown, and further increased when it appeared there was a major absence of publications concerning the Island in the literature of the South Pacific.

The study of demography, and particularly migration theory, further attracted the author's interest and when a major transport infrastructural change took place in May 1981 with the opening of an airport on Rotuma opportunity seemed ripe for appropriate research.

This interest culminated with the research survey to Rotuma during 1983. The visit served two purposes, providing the opportunity to gain the necessary field data, and as well allowing the experience of 'fa-Rotuma' (Rotuma way of life).

Rotuma remains the true Pacific Island paradise with a beautiful habitat, and a charming race of people. It must be a Social Scientist's dream research environment.

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TABLE OF CONTENTS

	<u>PAGE</u>
Preface	i
Acknowledgements	ii
Table of Contents	1
List of Figures	2
List of Tables	3
Chapter One: Thesis Objective and Approach	4
Chapter Two: The Setting to Recent Population Movement	16
Chapter Three: Analysis of Census Information and Other Population Studies	30
Chapter Four: Information Sources and Sample Survey Methods	45
Chapter Five: Dynamics of Rotuman Population Movement	54
Chapter Six: Concluding Comments	67
Appendix A: Background Data	72
Appendix B: Sample Survey Data	88
Appendix C: Statistical Calculations	99
Bibliography	102

LIST OF FIGURES

	<u>PAGE</u>
Figure 1: Rotuma in the South Pacific	5
Figure 2: Rotuma - Topography	17
Figure 3: Vegetation on Rotuma	19
Figure 4: Vegetation on Rotuma	19
Figure 5: Rotuma - Topography	21
Figure 6: The Seven Chiefly Districts of Rotuma	25
Figure 7: Rotuma - Population of Chiefly Districts, 1976 Census	37
Figure 8: The Disappearing Households of Rotuma	51
Figure 9: The Disappearing Households of Rotuma	51

LIST OF TABLES

	<u>PAGE</u>
Table 1: Rotuman Population; Resident on Rotuma/Rest of Fiji 1921-1976	6
Table 2: Age and Sex Structure of Population 1976	31
Table 3: Population Distribution by Age Group, 1966-76	31
Table 4: Ethnic Distribution of Population, 1976	33
Table 5: Each Ethnic Group as % of National Total 1976	33
Table 6: Residence of Rotuman Population, Fiji 1976	34
Table 7: Geographic Distribution of Population on Rotuma 1976	36
Table 8: Population Change: Rotuma 1946-76	36
Table 9: Population Growth Rates 1946-76 (Annual Rates)	39
Table 10: Total Rotuman Race Population in Fiji: 1881-1976	39
Table 11: Rotuma: Migration Estimates 1966-81	40
Table 12: Emigration Rates by Age and Sex 1966-76	42
Table 13: Migrant Destinations Annual Flows, 1970-76	42
Table 14: Average Household Size: 1956-76	44
Table 15: 1983 Sample Survey Summary	53

CHAPTER ONE: THESIS OBJECTIVE AND APPROACH

Until the 1950's the population of the isolated island of Rotuma, part of the Fiji group (Figure 1), could be said to have participated little in the movement of island peoples to Fiji's main islands. At the 1946 census there were 2929 residents on Rotuma while there were 384 or 11.6% of the Fijian nation's Rotuman race living on the main Fijian islands. This demographic situation had slowly developed since the later nineteenth century. In 1921 there were 2112 residents on Rotuma and only 123 or 5.5% of the Rotuman race living on mainland Fiji. Through natural increase and a small level of migration the situation remained fairly static until World War Two.

It was the 1946-56 intercensal decade that saw the first indications of what was to become a dramatic shift in the location of the Rotuman population due to significant levels of migration. By 1956 the population of Rotuma had reached 3122, while 1300 Rotumans lived on mainland Fiji. This amounted to an increase from 11.6% of the Rotuman population in 1946 to 29.4% in 1956. This trend continued over the next two decades at an increasing rate. The 1966 census showed 3365 residents on Rotuma and 2432 Rotumans living on the main islands of Fiji. Between the censuses of 1956 and 1966 the proportion on the main islands changed from 29.4% to 41.9%. During the next inter-censal decade the demographic situation altered even more dramatically so that by 1976 a fall in Rotumans resident on Rotuma to 2707 had taken place and 4584 Rotumans were living on mainland Fiji - an increase from 41.9% in 1966 to 62.9% in 1976 (Table 1).

One development of significance in the 1980s was the opening of an airstrip on Rotuma in May 1981. The rationale for the construction of the airport was diverse. When proposed this development was received with mixed feeling by various Rotuman groups. The Fijian Central Government, through its agencies such as the Central Planning Office, saw this transport infrastructural change as a necessity for the 1980s. Fiji's Five Year Development Plan stated as objectives a series of improvements in access to and from isolated areas and the promotion of economic development. The Rotuman Island Council, representing a consensus of Island views, though finally favouring the construction of the airport on the grounds

Figure 1: Rotuma in the South Pacific

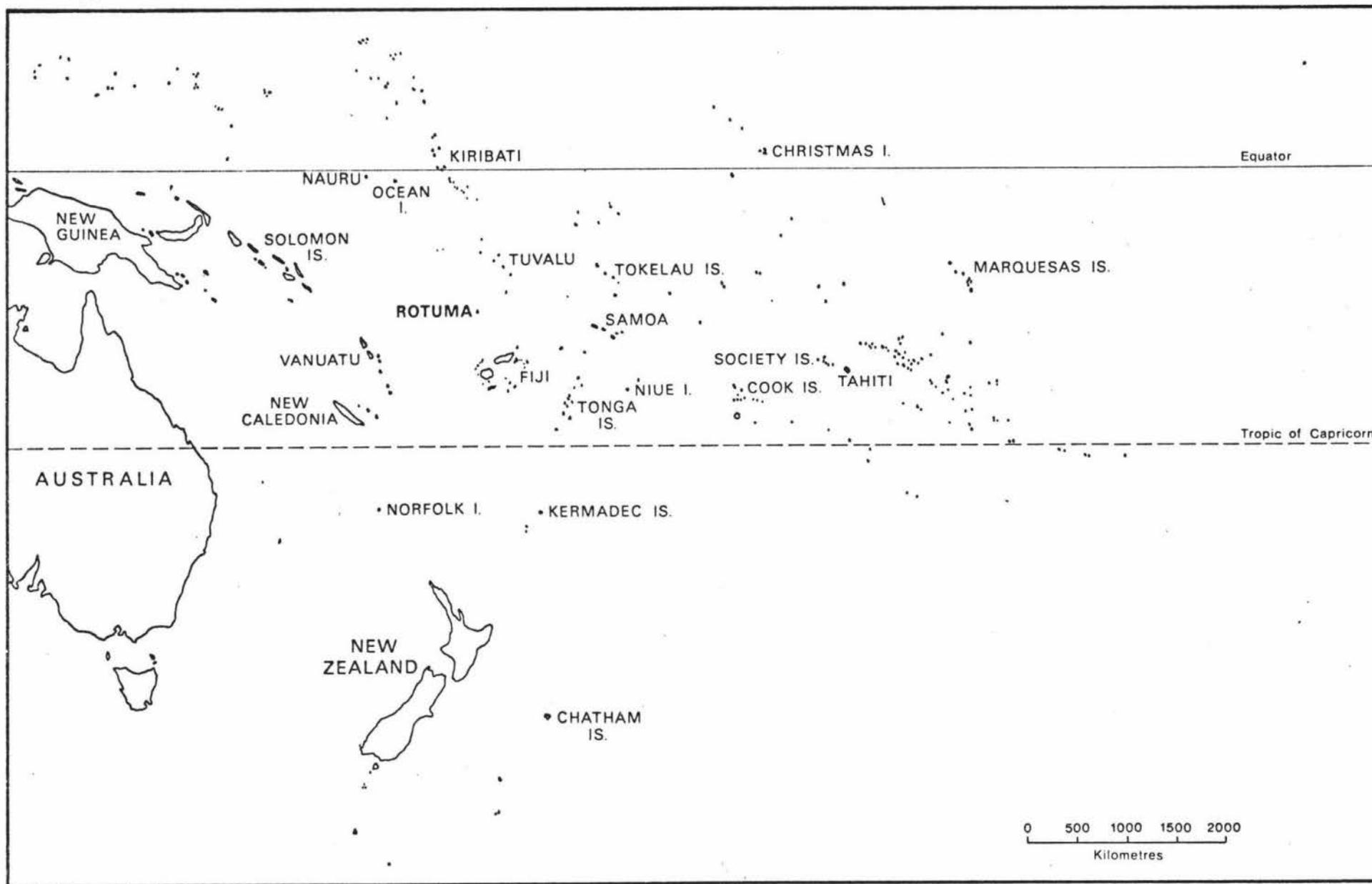


Table 1: Rotuman Population; Resident on Rotuma/Rest of Fiji 1921-1976

Year Location	1921		1946		1956		1966		1976	
	Number	Percent								
Rotuma	2112	94.5	2929	88.4	3122	70.6	3365	58.1	2707*	37.1
Rest of Fiji	123	5.5	384	11.6	1300	29.4	2432	41.9	4584	62.9
TOTAL	2235	100	3313	100	4422	100	5797	100	7291	100

*The 1976 figure has the 98 non-Rotuman raced residents of Rotuma removed while the earlier figures include all residents on Rotuma. Census data is presented in such a form that this procedure cannot be applied to earlier figures with accuracy.

Source: 1921, 1946, 1956, 1966 and 1976 Censi.

that it could be used in health emergencies and in other emergencies like the 1972 hurricane that destroyed 80% of the island's dwellings, did not desire rapid general development. The Council wished to retain their position as the sole authority to implement change and ensure the preservation of customs and the traditional way of life. There was a considerable amount of sadness among elders of Rotuma when the airport was opened, as they felt their isolation had been a special form of protection. They envisaged that with their isolation lost, Rotuma would become a tourist mecca of the South Pacific and with it would come uncontrollable Western influences and problems. The Rotuma Island Council had been approached early in the 1970s by the Pacific and Orient tourist shipping line to have their island designated a stop-over for cruises and this was flatly turned down. However it was expected that with the airport, undesirable change would be inevitable and forced upon the island.

The general feeling of the Rotuman community in Suva, represented by comments made by the 1981 Rotuman Centennial Anniversary Booklet Production Committee (One Hundred Years Rotuma 1881-1981), was that the island needed an influx of new ideas and change and they welcomed development in the form of tourism, business ventures, and a social-political upheaval on the island.

Discussion did not extend to the implications the airport development would have on the mobility and changing location of Rotumans within the Fiji group. This is somewhat surprising as many studies concerned with migration in other Pacific islands post World War Two, emphasise the importance and implications of a new transport development on the movement of island populations (Walsh, 1970; Bedford, 1980).

The main objective of this study is to describe the changes in movement of people to and from Rotuma immediately before and following the appearance of the airport. Further, the dynamics of movement will be investigated. The research will establish if any significant subsets within the Rotuman community had a higher or lower level of movement, by sex, age, religion, education, occupation or other attributes during the period 1978 to 1983. The term 'movement' is preferred in the main rather than 'migration', as the latter label has far too many definition related problems which will be discussed more fully later in this chapter. Researchers in the past have often defined migration 'independently' of

the range of movement experienced by an island population. This strategy sees the fitting of movement to arbitrary categories, often decided before island situations have been ascertained. This work tries to go beyond that and recognises all movement as being potentially significant and relevant to a study of an island population. Some background information on historical developments in the island community are reviewed. This review enables, by setting historical action at the centre of the present situation of the island community, the selection of pertinent matters for special investigation through a survey of island households. The survey was chosen as the way to get detailed information on population movement as nothing has been researched or published since the 1976 census data was released. The information obtained through the survey and fieldwork, and discussion with many islanders, enabled some interpretative comments to be made about the character of Rotuman movement to and from the island during the period in question.

The discussion in Chapter 2 gives a broad indication of why some Rotumans 'elected' to migrate in the post World War Two period. It is vital that any island study includes a discussion of historical development relevant to the island in question. Chapter 3 examines past statistical data available for Rotuma and establishes aggregate migration patterns immediately prior to the survey period. In Chapter 4 the setting up of the field exercise is discussed, along with what problems had to be overcome. Chapter 5 presents the data collected on Rotuma along with some interpretation. In the final chapter conclusions are drawn and some discussion is centred around future possibilities in the movement of Rotumans.

In this opening chapter the problem of conventional migration theory and its inadequacies is very briefly discussed and the question of definitions is considered. The stand taken, after Bedford (1981), is that there is no predetermined model of migration, as the notion of universal transferability of a 'migration model' is suspect. Bedford argues that all recent Pacific micro-level migrations are unique in character and that no common model can be formulated (Bedford 1981). His view is that the Pacific researcher may review recent studies but must ultimately form a conceptual framework appropriate to the context of the island under study.

A. Conventional Migration Theory and Inadequacies

"In all of anthropological history no set of phenomena have interested us more than the migration of peoples, the interplay among their cultures, and the transformation of small societies into larger urban and national agglomerations" (Sol Tax - from Safa, 1975).

Migration theory has been a widely researched and published area of social scientific enquiry. It has been suggested that few additional generalisations have been made to those observed by Ravenstein in the nineteenth century (Lee, 1966). In spite of this, a tradition has developed that offers a number of conceptual developments which provide alternative frameworks within which migrant behaviour and migration patterns can be considered. The theories discussed in this chapter by no means cover all alternative conceptual frameworks or models, as this has been done elsewhere (e.g. Olsson, 1965; Bedford, 1981).

Abu-Lughod (1975) has suggested that the impressive volume of empirical research during the 1960s and 1970s finally dispelled the myth that theories and models of migration developed in the United States and Western Europe had relevance for explaining population movement in the non-western world. Recent micro-level research in the third world has demonstrated clearly that researchers are dealing with much more complex mobility processes than were previously thought when data collected in national censuses or large-scale sample surveys formed the primary input into the analysis of patterns, causes and consequences of population movement.

Recent micro-level studies, have tended to draw attention to the particularities of mobility situations in different parts of the third world. Bedford (1981) states that as a consequence, evolution of broad theories about population movement has lagged far behind detailed description of form and process. There have been attempts to draw out common themes and to work inductively towards wider spatial and cultural generalizations, but numerous contradictions in the evidence and the usual caution by authors about the limited utility of their findings has generated more questions than answers. In general the major migration concepts can be differentiated by where the emphasis is placed on the interplay of the commonly agreed 'migration constants' - the migrant, the origin, the destination and the intervening obstacles. As a result, emphasis on the migrant, especially

in terms of aggregate patterns, may be seen as a behavioural approach while emphasis on the other constants may lead to an approach of a functional economic kind.

An early formulation of a relationship between the migration constants was made by Young with: $m = ax/y$, where migration 'm' is a function of the independent variables 'x' and 'y', defined as "forces of attraction" and distance, with 'a' being a constant for proportionality (Young, 1928).

The concept of forces of attraction is similar to the 'push-pull' conceptual framework (Thomas, 1938). In this simple framework negative factors at the origin, which exert a push force on potential migrants, act in association with positive pull forces at a destination.

Pull forces are similar to Stouffler's conceptualisation of intervening opportunities (Stouffer, 1940). Stouffer postulated a direct relationship between migration and opportunity; thus, the number of migrants going a certain distance is directly proportional to the number of opportunities at that distance and inversely proportional to the number of intervening opportunities. The relationship between migration and distance was conceptualised as being dependent on an auxiliary relationship where the accumulated intervening opportunities are modelled as some function of distance.

The P_1P_2/D formula on the other hand represents an alternative modus operandi of migration between locations where the numerator is defined as population size rather than opportunity (Zipf, 1946). The Zipf model approaches maximum utility when the basic assumption of homogeneous distribution of income and unemployment are relaxed (Anderson, 1955).

In many respects the model outlined by Lee is a conceptual synthesis of earlier postulates (Lee, 1966). Lee conceptualised migrant perception of the relative merits of origin and destination as a set of positive and negative factors plus other variables in the form of intervening obstacles which influence an individual's behaviour.

The conceptualisation of migrant behaviour by Wolpert introduces the importance of residential inertia and migrant characteristics (Wolpert, 1965). The decision to migrate and residential inertia are bound by the subjective

appraisal of what Wolpert terms "place utility" rather than the sole consideration of objective economic circumstance. The appraisal of place utility represents a subjective analysis of achieved, against expected or perceived returns, at an alternative location. As a result, collective migrant behaviours can be thought of as the aggregation of individual and rational decisions regarding place utility.

Further review of these models is not applicable to the formulation of the research framework in this thesis, as the mobility process is much more complex than traditional migration theory indicates.

The time available to this researcher on Rotuma was only seven weeks, which was not considered enough to probe in depth influences affecting the movement of Islanders. A modest undertaking involving the description of movement during the period 1978-1983 was proposed instead.

B. Problem of Definitions

Researchers have had major problems in defining their terms with regard to the phenomena of the movement of people. Sir Dudley Stamp (1966) suggests that the terms migrant, migrate and migration consider different matters. He says a migrant is a person (also applied to animals and plants) who voluntarily moves from one country to another especially for the purpose of permanent residence. He becomes an emigrant from his native country and an immigrant into the country of his choice. The emphasis is on the voluntary nature of the movement though it may be dictated by economic circumstances hence the contrast with exile and refugee. Unfortunately this definition is far too abstract and open to considerable debate.

Lee (1966) offered a more satisfactory definition when he suggested that migration can be defined broadly as a permanent or semipermanent change of residence. No restriction is placed upon the distance of the move or upon the voluntary or involuntary nature of the act, and no distinction is made between external and internal migration. Thus, a move across the corridor from one flat to another is counted as just as much an act of migration as a move from Suva, Fiji to Auckland, New Zealand, though, of course, the initiation and consequences of such moves are vastly different. However, Lee does not include all kinds of spatial mobility in his definition. Excluded, for example, are the

continual movements of nomads and migratory workers, for whom there is no longterm residence, and temporary moves like those to the beaches for the summer, though this can not be universally accepted. Lee suggests that no matter how short or how long, how easy or how difficult, every act of migration involves an origin, a destination, and an intervening set of obstacles. Among the set of intervening obstacles, is the distance of the move, as that in some way is always present. Researchers have generally accepted the importance of this factor. Therefore migration can be considered purely as the movement of an individual from one location to another.

Bedford (1981) introduced a further consideration when he suggested it is usually assumed that the form of spatial mobility 'migration' involves individuals, families or groups in the severance of connections with one habitat and the establishment of a new set of bonds in another location, frequently with the intention on the part of the mover to shift 'permanently' to another place of residence. Migration, so defined, is commonly differentiated from the numerous forms of spatial mobility which involve temporary absences from a place considered to be 'home'. Such temporary moves have been grouped under the label of 'circulation'. The declared intentions of the movers is the primary definitional argument used by Bedford when separating spatial mobility termed 'migration' or 'circulation' (non-migration). There is a fine line drawn between the two forms of mobility and unfortunately they frequently cross, and often declared intentions of the individual will change during the migration. Researchers can only speculate on intentions as information is often gathered third party, or a considerable time period has elapsed since the original declared intention to move.

The concept of 'time' is an important attribute to researchers when formulating a definition of migration. Movement may occur at certain times of the year, traditionally known as seasonal migration, or involve repeated trips between locations, generally termed circular migration. This, in turn, can be regarded as being fundamentally different from the movements termed 'circulation' which is regarded as non-migration mobility.

There is another definitional dilemma confronting the mobility researcher which is illustrated by the bewildering array of time arbitrary

distinctions contained in recent micro-level studies. Elapsed time in residence outside the place of origin used has been six months (Hugo, 1978) twelve months (Mantra, 1978; Maude, 1981), with several shorter or greater periods employed. Young (1977) defined migration as the persons residing outside their village of origin at the time of the survey. This raises several practical issues, such as counting all temporary moves away from an individual's place of origin which just happen to coincide with the period of survey, and also the definitional problem of what is a place of origin, frequently defined as place of birth. This can often lead to more problems than solutions, though this is the criteria the Fiji Census applies to its data when dealing with so called migrants, as too does the New Zealand Census but with several qualifications.

Therefore the researcher is left with a difficult decision and often an arbitrary time period is used purely for practical implementation of data gathering. Further, one must consider the entire population of a given locality and every movement, no matter what intent or time period is involved, so as to cover all possibilities. Undue concentration on particular subsets of total spatial mobility populations can generate a distorted view of the relative importance of particular kinds of movement, as well as obscuring some fundamental changes taking place within the community as a whole.

Much migration theory holds that the movement of people progresses in cycles and stages. The movement of people can be considered as part of a constant continuum of change, spanning time. Failure to appreciate this led to what Goldstein (1976:428) termed one of the greatest faults of which researchers have been guilty in mobility research - 'being locked into the same kinds of questions related to the same concepts of migrations that were developed years ago for a particular setting at a particular time'.

The researcher must also consider the scale of investigation itself, as there are many different levels of investigation. The contrast is the 'Global' movement of individuals to the micro level of mobility, which can include island, village, household, or family unit shifts. It is most important to identify the numerous variables at work within each level and their interaction within the entire system.

One should also distinguish scale from impact. Much migration is 'traditional' - usually seasonal, circular or marital. For centuries this migration has affected the same demographic groups, usually the young, male and in small rural communities. Most of these movements do not change very much over long time periods in their net impact on the size, structure or income of originating or receiving communities. More recently researchers have been interested in the sudden rapid change in demographic profile of regions which cannot be explained by traditional mobility. While traditional movement itself is certainly still worthy of investigation and further documentation, it is the interaction with the new set of influences that has created the modern situation of rapid migration flows that modern studies are examining.

Safa (1973), when considering the global scale, suggested migration today is part of a world-wide process of urbanization and industrialization which has brought about severe dislocation in the national economies of advanced industrial, as well as, developing third world nations. Migration can no longer be thought of as shifts of families from rural to urban environments, but involves wholesale population movements across national boundaries and into different cultures and economies. Increasingly, at the micro-level scale, migration is investigated independently from these global influences where the researcher is more interested in the personal decision making process of the individual migrant. Many factors are explored and closely scrutinized and sometimes linked to global processes, though far too often such micro-studies are documented in isolation, with the importance of the wider setting being lost.

Migration cannot be viewed as simply a question of individual choice, though this still has bearing on selection by the individual in a migrant population. Most, if not all, mobility is constrained by options available in the community of which the individual is part.

It has been suggested that there is a common bond linking all scales and stages of the migration process: increasingly migration must be interpreted in an economic context. Safa (1975) has stated that the wider economic ramifications of migration are often overlooked. Though what are conventionally termed non-economic factors obviously have some bearing, several studies concur that migrants leave their area of origin primarily because

of a lack of employment opportunities and in hope of finding better opportunities elsewhere.

The massive movements taking place today within, as well as across, national boundaries are due to major structural transformations in the economies of the world. Historically much migration has been a manifestation of a world-wide shift from a rural agrarian base to an urban-industrial base in the economies of most nations. As industrialisation is viewed as a part of economic growth and modernization in the world, migration is probably inevitable. Some recent studies of population mobility about the Pacific have concentrated on understanding the process by which the international capitalist economy has transformed the indigenous systems of production, consumption and movement (Forbes 1978, Curtain 1981).

It appears certain factors are common to all definitions. No matter the form of the spatial mobility under investigation, all examples have an origin and a destination, a distance travelled and a participating individual. The author accepts this set of migration constants as a necessary but only a preliminary base for this investigation. While it is also appreciated that economic induced structural transformations are occurring the world over, and each society at different times confers particular opportunities for mobility, ultimately the final decision to migrate is with the individual and his perception of his social reality.

CHAPTER TWO: THE SETTING TO RECENT
POPULATION MOVEMENT

This short chapter deals with the historical circumstances and developments which are critical to the interpretation of changes in the Island's population. Discussion is organised around eight headings. The intention is not to give a detailed review of either general historical events in the islands' past or all influences that are at work. Rather the aim is to identify aspects which have shaped the way of life of the islanders during the post World War II period. An understanding of these matters is a step towards understanding why the mobility of Rotumans during the years 1978 to 1983 was as it was.

1. Isolation

Rotuma is an example of an isolated Pacific Island. It is the northernmost island within the Fiji group, geographically located closer to Wallis and Futuna and Tuvalu than the island of Fiji. It is situated at latitude 12°13'S and between longitudes 177°E and 177°10'E. It is elongated in shape and is about 14.5 km long in an east-west direction and, at its widest point, is nearly 5 km from north to south. It covers an area of 4379 hectares. Rotuma Island itself is the largest of a small group of volcanic islands and islets which include Uea, Solkope, Solnohu, Afgahu and numerous rocks, lying just off the coast of Rotuma (Figure 2).

It is due to the factor of isolation that observers have considered Rotuma to be one of the final bastions of traditional Polynesian culture within the Pacific. Western influences have been slow in bridging the distance element which has protected this closed, highly-formal, customary society. It has probably been the remoteness of Rotuma that has contributed to its late participation as a source area for Fiji's internal Island migrants. The neighbouring outer Islands immediately surrounding the main Islands of Viti Levu and Vanua Levu have experienced rapid and major migration for many decades.

Rotuma's isolation has often meant the island has been the forgotten Fijian Island with regard to development in the areas of advanced education, extended health services, sealed roads, tourism promotion and particularly

Figure 2: Rotuma - Topography



agricultural expansion, whether it be for export or internal consumption. In the past Rotumans have shown little inclination to leave Rotuma as the only world a Rotuman 'perceived' was Rotuma - an island now seen as sitting in the middle of the largest ocean in the world, several hundred kilometres from anywhere.

2. Physical Environment

Physiographically, the Island is hilly with numerous volcanic peaks, up to 250m high, rising out of a flat to easy rolling, plateau-like area formed from basalt flows. A narrow coral sand bar links a main eastern volcanic mass to a smaller western volcanic mass. A fringing coral reef encircles most of the island protecting the coast from any major ocean erosion. Generally the Island is highly fertile and is renowned for its fast plant growth and dense bush undergrowth (Figures 3 and 4).

Three major physiographic units based on geology and land form are recognised on Rotuma (Laffan and Smith, 1981). All are open to cultivation and encourage islanders to base their lifestyle upon horticulture. Unit one is a broad belt of volcanic cones occurring along the main east-west axis of the island formed from scoriaceous basalt. At least twenty cones with craters occur and the land is mainly hilly (slope range $13-30^{\circ}$) or steep (slopes $>30^{\circ}$). Islanders have adapted their horticultural techniques to this environment and have become skilled in successfully cultivating many subsistence crops or running livestock (goats and cattle) on these slopes. Unit two consists of a relatively large lowland area formed by basalt flows surrounding the volcanic cones, where slopes vary from flat to rolling ($0-12^{\circ}$) and most of the area has an altitudinal range of 15 to 90 metres with Basaltic tephra occurring as a relatively thick (1m) layer over the basalt flows on about one third of the island. It is within this area that the majority of cultivation is carried out successfully. The relief, soil and climate makes it satisfactory for subsistence Pacific Island agriculture and possibly export-orientated plantation style developments. The techniques of rotation agriculture, conservation and replenishment of soils and multi-tiered farming practices e.g. upper level-coconut palms, middle level-orange and lemon trees or banana, lower level-cassava or taro, have seen this area fully utilised at an extremely high level of production. Unit three is a relatively narrow discontinuous coastal margin comprising pockets of coral sand often with swampy depressions on

Vegetation on Rotuma

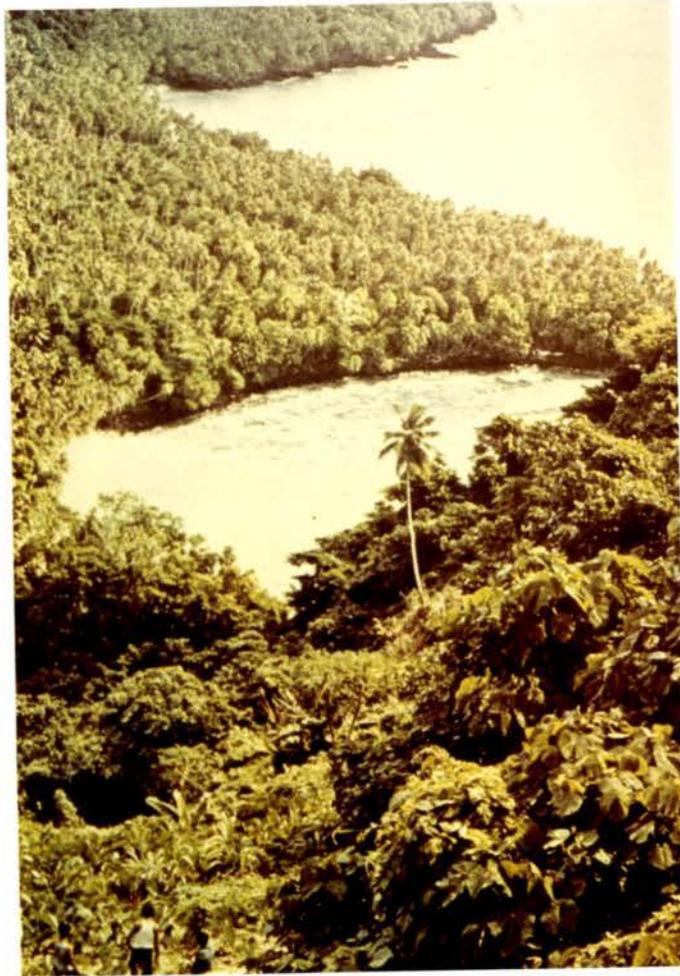


Figure 3



Figure 4

the landward edge. It is in this area that the Islanders have constructed compact organised villages surrounded by plantations of coconut palms. Within villages the coconut palm is predominant, being fully utilised as a shade protection device against intense tropical sun and also harvested as a food, and utilised, in all aspects of life, e.g. palms for roof construction, husks for fuel. The swampy depressions have been surrounded by stone fences and pigs run freely in these enclosures. Generally the topography is flat and undulating and it is only in the central plateau that any steep and 'mountainous' terrain occurs (Figure 5). The soils are generally fertile, although along the coastal areas the depth of soil does prohibit the growth of certain varieties of crops and plants. However coconut palms thrive, and the problem of soil infertility is generally limited to small areas of the coast. Overall Rotuma has fertile soils which can support a wide range of crops. Rotumans have fully adapted to this habitat and have gained high levels of production, and therefore enjoy a high standard of living from their agriculturally based subsistence lifestyle. Rotuma enjoys abundant and regular rainfall, combined with a hot tropical climate providing a rapid growth rate which is continuous year round. Though there is no running water on Rotuma, fresh water can always be obtained from subterranean sources by lowering buckets into numerous wells scattered about the island. The physical environment has encouraged islanders to remain on Rotuma as their subsistence lifestyle provides them with a self-satisfying community, and personal well being.

3. Land Tenure System

An elaborate system of land ownership has been propagated and has produced the modern overlay of land tenure found on Rotuma. Every square millimetre of island soil has been allocated to an ancient coral house foundation situated on the coastal margin.

The land inheritance system has a significant bearing on a Rotuman's motivations to migrate to and from the island, as there is no landless class on Rotuma. Land is generally hereditary along the female lineage of each house foundation. When a couple marry on Rotuma, it is usually the husband who moves to the wife's house and cultivates her family's land.

Rotuma - Topography



Figure 5

There is no such thing as land title on Rotuma in a written form. The island has never been officially surveyed or subdivided. Rather, there is a cultural understanding, binding to all members of Rotuman society, which recognises land ownership and subdivision, and is marked by rocks, coconut palms and trees as boundary points for plots that correspond to coastal foundations, no matter if the site is barren or has a dwelling on it. The vast Catholic lands, ceded to the church during the nineteenth century, are also assigned to a foundation, i.e. that of the church, with no official written title. Because of this cultural trait there is no such thing as a landless class on Rotuma as compared with South East Asia, where it is common to find a growing landless peasantry, which is often cited as a reason for rural people to migrate (Lipton, 1980).

This land tenure system and inheritance principle has helped to mould and sustain this closed, highly formal, traditional Polynesian society to such a degree that it applies pressure on its members to conform rigidly to its principles and has actually become the foundation of the culture. The ownership of over 95% of the 4379 hectares of land on Rotuma is vested in the family group, the 'Kainaga', under the control of a leader, known as the 'pure ne hanna'. Within discretionary limits, the 'pure' reapportions the use of the land from time to time, determines which fallow areas should be opened up and which areas should be allowed to fallow. No land is rented as this form of land use is inconsistent with the 'Kainaga' land tenure system. All members of the 'Kainaga' have the right to use a reapportioned piece of land for subsistence purposes as well as the right to use coconuts on Kainaga land. An outside member may be granted the use of a piece of land for one to three years. This is a verbal social arrangement consented to by members of the Kainaga and granted by the 'pure', and not a legal lease agreement. When there is discord between the user and other members of the group the right to use the land can change. In such disputes the district chief plays a significant role in conciliation and as a last resort the District Officer may be involved. Family ties and group identities are valued more highly than individual rights and privileges, so much so that the question of leasing land for long term development has been ruled out by an overwhelming majority. Instead there is a general agreement that land development should continue *ad infinitum* on a Kainaga ownership

basis with the three key features: (i) the family group determining their own land use, (ii) other family members assisting on the land with their share of proceeds determined prior to commencement of work, (iii) terms and conditions being recorded and a copy kept by the Rotuma Island Council.

Early attempts at rationalising land ownership culminated in the appointment of a Land Commission in 1959 but this was abandoned due to fierce opposition by Rotumans. The Rotuma Land Bill of 1966 to provide a Lands Commission for registration, dealings and transmission of lands was submitted to Council in 1967 but agreement could not be reached. At present no land dealings can be legally entered or registered on the Island. One of the main reasons for the strong objections being raised was the concept of registering people to a patrilineal system as is the case elsewhere in Fiji. Although this system would have reduced the problems associated with land entitlement, Rotumans, unaccustomed to a culture which emphasises patrilineal inheritance saw the move as a threat to their 'Kainaga' system. On Rotuma, since rights to the land are inherited matrilineally, it is not uncommon for a person to trace their links with a particular plot of land for several generations. The existing system is so supportive and self perpetuating that it sees the entire Rotuman race with sufficiently proportional lands to cultivate sensibly and productively.

4. Rotuman Culture

Rotuman Society was earlier described as one of the final bastions of traditional Polynesian Society within the Pacific as it is extremely custom orientated. Rotuma has been slow to adopt Western cultural traits to the point of being highly selective. The Rotumans are a very proud and supportive race of people, and western influences have not fragmented this society or caused chaos as has been the case in other isolated closed societies. It has not produced, as yet, the disillusionment of self purpose that has seen massive migration moves in other third World countries and through-out history.

The Rotuman lifestyle is centred around the cultivation of land for subsistence purposes and on the whole most agricultural labour is carried out by the males. Therefore immense pressure is put on male members to

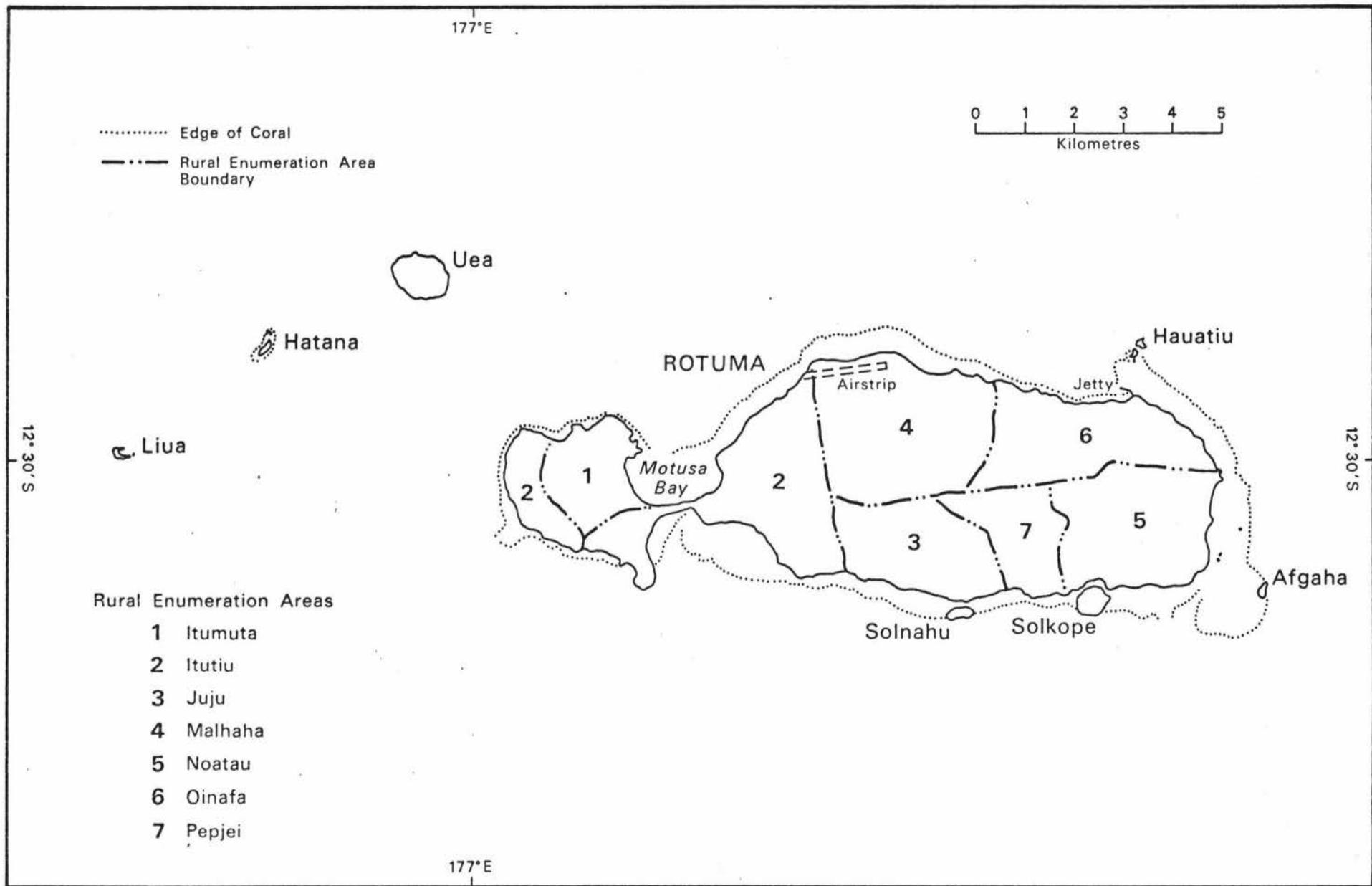
remain subsistence agriculturalists on Rotuma. The society in the past has discouraged its male members from leaving Rotuma. Pressure has also been applied to female members of this society to stay on Rotuma and marry, as women play an equally important role in sustaining a subsistence lifestyle.

The role of the church has also had a significant bearing on Rotuman motivations to migrate to and from the island. Rotuman society is extremely religiously orientated and church elders are respected and can greatly influence decisions. The island has two predominant western religions represented. The Methodists make up 60% of the population and the Catholics comprise the other 40%. It has been suggested that the Catholic church on Rotuma has actively discouraged outmigration and would prefer its congregation to expand on the island (One Hundred Years Rotuma 1881-1981). There has been some animosity between the religious groups for several decades and one wonders if the churches' policies have been in part to sustain their own positions. It was with this factor in mind that the author felt further investigation was required on Rotuma to ascertain if any significant trends were apparent within religious groups which could account for the migration pattern.

The highly structured traditional society on Rotuma has encouraged Islanders to remain on the island. The island is in a unique position within the Fijian context, as Rotumans are of Polynesian ancestry while the Fijian race is of Melanesian descent, hence Rotumans enjoy an independent language and culture that has developed autonomously from that of the Fijian race. Rotumans perceive themselves to be different from Fijians, and are only part of Fiji for practical administrative reasons such as economies of scale that see Rotumans using the Fijian currency and philatelic services.

Until recent times (1960s) Rotumans had no desire to migrate to mainland Fiji as they would be strangers in a foreign culture within their own nation. The Island's administration is governed by the Rotuma Island Council which has 14 members, 2 from each of the 7 chiefly districts on the island (Figure 6). One member from each district is elected each year, while the other is the District Chief who attains that honour by hereditary process for life. The Clerk of the Council is the Fijian Government's Island District Officer, a member of the Fijian Civil

Figure 6: The Seven Chiefly Districts of Rotuma



Service, who is the Fijian Central Government representative. The District Officer in pre-World War II days was usually an expatriate, though in the past three decades it has been a Rotuman raced individual. The Chairman of the Council is usually the Paramount Chief of the island, who is always from Noatau District known as Gagaj Maraf. This Council governs Rotuma autonomously apart from the Fijian Parliament. Rotuma has one senate representative at the Fijian Central Government level. This group of men have controlled Rotuman policy and development and have been wary of change and have encouraged the status quo which has seen Rotuma remain a closed society until recently. Each district is controlled by its chief who then has several hereditary subchiefs under him. They hold regular district meetings when all members must attend. Here grievances are aired and policy is voiced. It is an extremely tight political unit where a majority rules and strict compliance is enforced. This form of societal control has seen Rotuma prosper and remain a relatively autonomous unit in the twentieth century.

5. Education

Rotumans in the past have not been encouraged to gain advanced education. Rather, they would remain at school until their early teens and become literate, then the males would become subsistence agriculturalists and the females subsistence domestics. The islanders had no desire to leave Rotuma for educational purposes and what education they had received gave them no aspirations to attain anything else other than becoming valued members of their own society on Rotuma. The Catholic church has its own school system and therefore directly controls the childrens' perception of life and future aspirations. The Catholic policy appears to favour education to about Form Two then encourages its young to move onto the land. The Fijian government funded schools are attended by the Methodist children and some Catholic children. The island has a state run Junior High School from Form One to Form Five. Here students are taught in the English language and sit the 'Fiji Junior' examination in Form Four. If pupils pass they move on to Form Five and sit the New Zealand School Certificate examination. It appears that in the past decade teachers and parents actively encouraged their children to attain such qualifications, then sent them onto Suva to attain higher qualifications. There appears to have been a major shift in thinking during the 1960s which has seen Rotumans wishing to attain higher qualifications. This appears to be linked to the

Methodist community, while the Catholic community has been slower to adopt this new policy. Historical evidence points to an increased communication with the outside world post World War II. What was a small flow of migrants in pre World War II times slowly developed during the two decades after 1945 and gave Rotumans a contact in Suva which gradually propagated itself. Circumstantial evidence at least suggests that education aspirations and the outflow of migrants could be directly related.

6. Transport

Rotuma's communication and contact with the rest of the world, especially its transport link, has had a significant bearing on Rotumans' motivation to migrate to and from the island. During the 1950's and 1960's the only form of transport to and from Rotuma was the Cargo Boat. It would call irregularly approximately four times a year. It was a three or four day journey to Suva, which was often arduous in rough seas and extremely unpleasant for all concerned. Berths were limited, and always fully booked. Basically it meant that islanders were trapped on Rotuma.

During the 1970's the central government decided that Rotuma would receive an airport, offering a one and a half hour journey and a regular air service that would meet any passenger demands placed on it. It took several years to construct the runway. During this time cargo boats visited the island regularly at a rate of once a month, which meant many berths were available to islanders if they desired to travel. The airport, opened in April 1981, was originally serviced by a Fiji Air 4 seater aircraft once a week. The demand since was called for a Fiji Air 10 seater aircraft service twice a week with all the seats filled the majority of the time. It must be appreciated that as the transport infrastructure has changed, so too has the movement pattern; it is quite possible both are directly linked.

7. Colonial Policy

Early policy saw the exclusion of Indians on Rotuma. This makes Rotuma unique in the Fijian context with no settled Indians in Rotuma today other than those remaining from colonial times who married locals. Fiji has more Indians than Fijians today. There is, therefore, no pressure on land, nor any of the problems associated with the Indians

found in other parts of Fiji. The Rotuman culture has survived and flourished without interference from other cultures. As well early policy did not allow Europeans to settle, other than those directly related to the Fijian Civil service and related departments, or Colonial Trading Companies' employees. In 1953 the Colonial Trading Companies were told to leave and the Rotuma Cooperative Association was established. This venture has been the main trader on Rotuma since, the initiative further strengthening their position as a closed society. While gaining the profits and benefits of their own labour, it helped sustain satisfactory material conditions during the period which coincided with little out-ward migration.

8. Fijian Developments

Rotuma's unique position within the Fijian nation, almost being described as a Polynesian outlier within the geographical area designated Melanesia, sees itself directly related to developments on the Fijian mainland, but as an active observer. Fiji, during the post World War II period, has suffered from a chronic unemployment problem. It can not sustain an influx of Rotuman migrants. The average Rotuman subsistence agriculturalist would be unskilled, and would be unable to find an urban job. This may have actively discouraged young Rotumans from moving to the Fijian mainland.

The few early migrant Rotumans who gained an education in Suva did not return to the island, as their advanced education could not be utilised on Rotuma, so they remained in Suva. They quickly advanced in all areas of industry, the civil service, and commerce. Rotumans stood out as an industrious Polynesian race within a Melanesian and Indian culture. Once in positions of authority and upper management it appears Rotumans have "looked after their own", and in recent times there has been little unemployment amongst Rotumans in Fiji.

Urban living conditions in Fiji can be poor, and there is a chronic housing shortage, particularly in Suva. These problems may have influenced Rotumans in the past not to journey to the main islands of Fiji, or upon arrival their perceived expectations have not been achieved and a better standard of living can be attained by returning to Rotuma. The movement from an agricultural based subsistence lifestyle to a Western influenced

monetary existence has been massive in Fiji in recent years. With this fundamental change many related other changes have taken place, causing some problems. The movement of islanders from Rotuma should be viewed with this in mind.

CHAPTER THREE: ANALYSIS OF CENSUS INFORMATION
AND OTHER POPULATION STUDIES

In the following discussion the definitions adopted by the Fijian Census are adhered to. Special attention is given to describing population change using statistical evidence, covering in particular aspects of population movement made by people affected by a variety of influences.

The 1976 Census recorded the population of Rotuma as 2805 or 0.48% of Fiji's total population on 0.25% of the total land area of Fiji. This represents quite a significant reduction over the inter-censal decade; the 1966 population being 3365. In all a total fall of 560 persons, or 17% took place between 1966 and 1976.

Table 2 shows the age and sex distribution of the Rotuman and Fijian population of Rotuma. Other races are amalgamated as individually they are almost negligible. In order to look at the age distribution more meaningfully, age bands have been amalgamated. Table 3 shows the proportion of the total population in each age group. Also included are the 1966 proportions, as it is equally important to see how the age-structure is changing through time. As races other than Rotumans are not numerically significant, figures are given for the total population only.

It can be seen from Table 3 that the total proportion of the younger age groups is slowly falling. However, even in 1976, 61.1% of the Rotuman population was aged 24 years or younger. This demographic alteration could have come about through a number of factors. A birth control programme can inevitably lead to a slow increase in the relative proportion of the older age groups. Later marriages or smaller families could compound the trend. In addition, especially important for Rotuma could be the effects of substantial out migration. Suffice it to say here that an age-specific migration, where the majority of migrants are aged 15-29, will reduce the overall general fertility rate, as it is women of this age that are always the most fertile. This again, will reduce more than proportionately the numbers of the young. This demographic change has significant effects on the structure of the population. As the proportion of the

Table 2: Age and Sex Structure of Population 1976

	ROTUMANS		FIJIANS		OTHERS		TOTAL	
	M	F	M	F	M	F	M	F
0-4	141	170	2	5	5	4	148	179
5-9	255	202	2		1	2	258	204
10-14	255	244	6	5	6	3	267	252
15-19	164	92	3	2		2	167	96
20-24	73	63	4	2	1		78	65
25-29	49	65	2	4	4	2	55	71
30-34	60	82	1			1	61	83
35-39	69	80	1	1	2		72	81
40-44	54	64	3		1	1	58	65
45-49	67	54		3	1	1	68	58
50-54	57	50	1		1	2	59	52
55-59	41	55	1		1		43	55
60-64	47	43	2	2		1	49	46
65-69	14	24	1		2		17	24
70-74	16	21	1				17	21
75+	15	18					15	18
N.S.	3						3	
TOTAL	1380	1327	30	24	25	19	1435	1370
	2707		54		44		2805	

Source: 1976 Census

Table 3: Population Distribution by Age Group, 1966-76

	1966	1976
0-14	48.4%	46.6%
15-24	15.8%	14.5%
25-59	46.1%	45.9%
60+	5.5%	7.5%

Calculated from the 1976 Census.

economically active (conventionally defined as those aged 15-59 years) falls, inevitably those who are active must support an increasing number of people. On Rotuma, the proportion defined as economically active altered from 61.9% in 1966 to 60.4% in 1976. The dependency ratio rose accordingly.

The 1976 Census is now over seven years out of date. To gain some idea of what has been happening since then, it is necessary to look at other sources of data. The information obtained by the Ministry of Health, (usually regarded by associated Fijian Government departments as the most accurate and up to date available), and a Ministry of Agriculture study, carried out in April 1981, has been utilized here.

A survey performed by the District Nurse for Rotuma showed that on November 28, 1979 the total population of Rotuma had further fallen slightly to 2737, a fall of 68 individuals, or 2.4%, in the three year period since the 1976 Census.

Table 4 shows the ethnic distribution of population on Rotuma compared to Fiji generally. Quite obviously, the two bear no resemblance, Rotuma being populated almost exclusively by an indigenous population. Table 5 records the proportion of each national ethnic group that is resident on the island. This is a far more illuminating table. As is only to be expected, the proportions of ethnic groups other than Rotuman are miniscule. However, the interesting thing is that only 37.1% of the total Fijian Rotuman population actually is resident on Rotuma.

Table 6 reveals where the remaining 62.9% are found. The three sections constituting Table 6 show the destinations of Rotuman migrants and their subsequent families. Part (i) shows there are more Rotuman people residing in the Central Division than in Rotuma itself, and within the Central Division the population is very heavily concentrated in the urban areas, almost totally in Suva. In fact, of the Rotuman population resident outside Rotuma, 60% are located in Suva, a further 11% in Vatukoula (a goldmine is found there and this figure may have altered considerably in the seven years since the Census), and in all, 87.8% are resident in urban areas. Thus the 'destinations of migrants' are almost exclusively urban areas, and nearly two-thirds move to Suva.

Table 4: Ethnic Distribution of Population, 1976

	ROTUMA		FIJI
	Nos.	%	%
Chinese & Part-Chinese	4	0.1	0.8
European	7	0.2	0.8
Fijian	54	1.9	44.2
Indian	6	0.2	49.8
Part-European	17	0.6	1.7
Rotuman	2707	96.5	1.2
Other Pacific Islanders	5	0.2	1.2
Others	5	0.2	0.2
TOTAL	2805	99.9	99.9

Source: Calculated from 1976 Census

Table 5: Each Ethnic Group as % of National Total 1976

	Rotuma Population	Total Fiji Population	% in Rotuma
Chinese & Part-Chinese	4	4,652	0.01
European	7	4,929	0.1
Fijian	54	259,932	0.02
Indian	6	292,896	-
Part European	17	10,276	0.2
Rotuman	2,707	7,291	37.1
Other Pacific Islanders	5	6,822	0.07
Others	5	1,270	0.4
TOTAL	2,805	588,068	0.48

Source: Calculated from 1976 Census.

Table 6: Residence of Rotuman Population, Fiji 1976

(i) By Province:

	Nos.	%
Ba	1079	14.8
Ra	43	0.6
Nadroga/Navosa	53	0.7
Western Division	1075	16.1
Serua	8	0.1
Namosi	2	-
Tailevu	62	0.9
Naitasiri	829	11.4
Rewa	2203	30.2
Central Division	3104	42.6
Dua	8	0.1
Macuata	79	1.1
Cakaudrove	88	1.2
Northern Division	175	2.4
Lau	33	0.4
Lomaiviti	82	1.1
Kadavu	15	0.2
Rotuma	2707	37.1
Eastern Division	2837	38.8
TOTAL	7291	99.9

(ii) By Urban Area:

	Nos.	%
Nadi	103	1.4
Lautoka	334	4.6
Ba	18	0.3
Tavua	25	0.3
Vatukoula	539	7.4
Sigatoka	9	0.1
Rakiraki	18	0.3
Western Division	1046	14.4
Suva	2734	37.5
Nausori	71	1.0
Korovou	2	-
Navua	-	-
Central Division	2807	38.5
Levuka	75	1.0
Eastern Division	75	1.0
Labasa	61	0.8
Savusavu	35	0.5
Northern Division	96	1.3
TOTAL URBAN	4024	55.2

(iii) Summary:

	Nos.	%		Nos.	%
Total Urban	4024	55.2	VITI LEVU Urban	3853	84.1
Total Rural*	3267	44.8	Rural	426	9.3
TOTAL FIJI	7291	100.0	TOTAL	4279	93.4
			VANUA LEVU Urban	96	2.1
			Rural	79	3.7
			TOTAL	175	3.8

* includes Rotuma

NB % Figure excludes those Rotumans resident in Rotuma.

In looking at the geographic distribution of population, it is convenient to follow the usual seven chiefly districts of Rotuma. Table 7 shows the distribution of population on this basis, and for the same reason as previously (the small number of other races on the island), only the total population figures are tabulated.

The seven districts have been delineated on Figure 7. As both the map and table show the greatest population concentration is in Itutiu district, toward the centre of the island. The district contains, in addition to seven villages (of the Island total of 25), the Government station at Ahau. Although not a village as such, Ahau does represent a considerable concentration of population owing to the location of all the Government offices and staff quarters there.

As the population of Rotuma has experienced a considerable degree of out migration over the 1966-76 decade, it is necessary to look back over a longer time span to examine at what approximate period absolute depopulation began to occur. The figures presented in Table 8 thus refer to the post-war-period, going back to the 1946 census. The table shows that the Rotuman population increased fairly uniformly from 1946 to 1966, but the 1966-1976 decade showed a marked decline in all districts except Pepjei and Noatau. Population loss was greatest in absolute terms in Itutiu district (327 persons), but the greatest rate of loss was Malhaha, which lost 29% of its population in the 1966-76 decade. Overall, Rotuman population fell by almost 17% in those 10 years. Table 9 shows the intercensal rates of growth for the seven districts. The final column of the table gives the overall 30 year growth rate. However, this, taken by itself can be misleading. In order to gain some understanding of what conditioned the movement, it is necessary to look at the rates of change (and the directions of change) of population growth. Concentrating on the first three columns of Table 9, it can be seen that the further one moves to the right, the more numerous become the 'minus' signs. From an overall picture of slow growth in 1946-56, the position changes in 1956-66, with two districts experiencing absolute decline. By 1966-76, five out of the seven districts are experiencing population loss, and the two that are still increasing are doing so at very low rates of growth.

Table 7: Geographic Distribution of Population on Rotuma 1976

District	Population	Percentage
Itumuta	193	6.9
Itutiu	895	31.9
Juju	343	12.2
Malhaha	276	9.8
Noatau	534	19.0
Oinafa	335	11.9
Pepjei	229	8.2
TOTAL	2805	99.9

Source: 1976 Census.

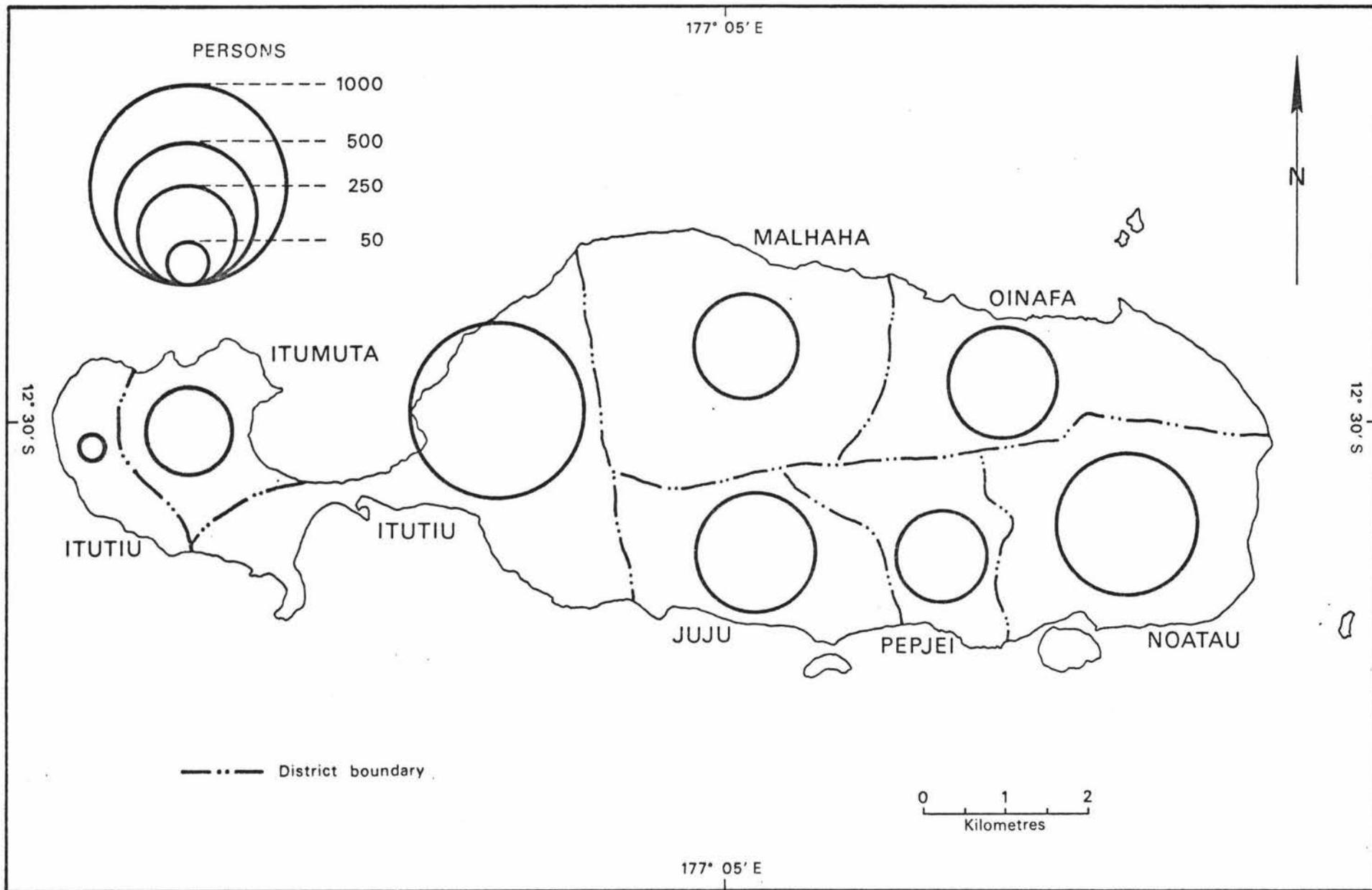
Table 8: Population Change: Rotuma 1946-76

District	1946	1956	1966	1976
Itumuta	229	241	231	193
Itutiu	978	1088	1222	895
Juju	446	439	396	343
Malhaha	256	321	388	276
Noatau	393	445	504	534
Oinafa	380	401	412	335
Pepjei	208	187	212	229
TOTAL	2929*	3122	3365	2805

* Figures do not total 2929 as 39 persons were enumerated as being on board vessels at Rotuma at the time of the Census.

Source: 1946, 1956, 1966 and 1976 Censi.

Figure 7: Rotuma - Population of Chiefly Districts, 1976 Census



There is no doubt that over the whole thirty year period under question, the population of Rotuma has grown by significantly less than natural increase alone would suggest. The rate of natural increase in 1946-56 would have been approximately 3.5%, 1956-66 it would have fallen to around 3%, and 1966-76 approximately 2.5%. Thus the inescapable conclusion is that Rotuma has experienced very high rates of out migration over this period of 30 years. Even those districts that are still growing, albeit slowly, are net losers of population.

A very simple calculation can be presented to highlight this phenomena. Using Fiji's national population growth rates in the three inter-censi decades (2.9%, 3.3%, 2.1% respectively), if Rotuma had grown at these rates, its 1976 population would have been 6639 or almost two and a half times as large as it actually was in 1976. The Fijian national population growth rates have been utilised rather than the Rotuman raced growth rates as the national figures are more reliable. Table 10 depicts the total Rotuman raced population resident in Fiji from 1881 to 1976. The rate of annual decline or growth in populace shown in the final column of the table indicates that Rotumans historically have had a fluctuating population.

Clearly the outward migration from Rotuma has been extensive in the post World War II period, and it would appear that it is now occurring at an increased rate. By setting up a simple comparative model of population change, a guide can be obtained of the likely number of migrants and their age distribution over any one period of time. Taking the 1966 Census figures as base data, one can project these through to 1976 and 1981 on the basis of established survival rates alone. This will generate an estimated 1976 and 1981 population which assumes no migration. The measured difference between the estimated population and the actual population can then be assumed to be migration. The results for Rotuma are shown in Table 11.

The result of the exercise is that the population of Rotuma was approximately 1400 persons below that total which the natural increase rate would suggest for the 1966-76 census decade; 531 persons below from 1976 to 1981, and 2156 persons below for the 1966-81 period. This does not mean that 1400 persons actually migrated from Rotuma during the 1966-76

Table 9: Population Growth Rates 1946-76 (Annual Rates)

District	1946-56	1956-66	1966-76	1946-76
Itumuta	+0.5%	-0.4%	-1.6%	-0.5%
Itutiu	+1.1%	+1.2%	-2.7%	-0.3%
Juju	-0.2%	-1.0%	-1.3%	-0.8%
Malhaha	+2.5%	+2.1%	-2.9%	+0.3%
Noatau	+1.3%	+1.3%	+0.6%	+1.2%
Oinafa	+0.5%	+0.3%	-1.9%	-0.4%
Pepjei	-1.0%	+1.3%	+0.8%	+0.3%
TOTAL	+0.7%	+0.8%	-1.7%	-0.1%

Calculated from Censi.

Table 10: Total Rotuman Race Population in Fiji: 1881-1976

Year	Number	Percent Change (Inter-Censi)	Percent Change (Annual Rate Since Previous Census)
1881	2452	-	-
1891	2219	-9.5	-0.9
1901	2230	+0.5	+0.05
1911	2176	-2.4	-0.2
1921	2235	+2.7	+0.3
1936	2816	+25.9	+1.7
1946	3313	+17.6	+1.8
1956	4422	+33.5	+3.3
1966	5797	+31.1	+3.1
1976	7291	+25.8	+2.6

Source: Censi from 1881 to 1976

Table 11: Rotuma: Migration Estimates 1966-81

	1966 (A ₁)		1971 (E)		1976 (E)		1976 (A ₁)		NET MIGRATION (1966-76)		1981 (E) (1966 BASE YEAR)		1981 (E) (1976 BASE YEAR)		1981 (A ₂)		NET MIGRATION (1966-81)		NET MIGRATION (1976-81)	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
0-4	289	265	257	239	278	258	148	179	-130	-79	300	278	162	195	130	143	-170	-135	-32	-52
5-9	295	243	282	259	251	234	258	204	+7	-30	271	252	142	173	185	182	-86	-70	+43	+9
10-14	283	254	294	242	281	258	267	252	-14	-6	250	233	257	203	201	179	-49	-54	-56	-24
15-19	169	158	282	253	293	241	167	96	-126	-145	280	257	266	251	143	123	-137	-134	-123	-128
20-24	83	123	168	157	280	252	78	65	-202	-187	292	240	166	95	75	63	-217	-177	-91	-32
25-29	97	96	82	122	167	156	55	71	-112	-85	279	251	77	64	67	58	-212	-193	-10	-6
30-34	87	91	96	95	81	121	61	83	-20	-38	166	155	54	70	67	65	-99	-90	+13	-5
35-39	74	85	86	90	95	94	72	81	-23	-13	80	120	60	82	67	66	-13	-54	+7	-16
40-44	77	79	72	84	84	89	58	65	-26	-24	93	92	70	79	67	67	-26	-25	-3	-12
45-49	60	68	75	78	70	83	68	58	-2	-25	82	87	56	63	67	68	-15	-19	+11	+5
50-54	66	61	57	66	72	76	59	52	-13	-24	67	80	65	55	51	54	-16	-26	-14	-1
55-59	36	40	61	58	53	63	43	55	-10	-8	68	73	55	48	47	51	-21	-22	-8	+3
60-64	32	44	32	38	55	55	49	46	-6	-9	49	60	39	51	63	50	+14	-10	+24	-1
65-69	19	29	28	40	28	35	17	24	-11	-11	51	51	45	42	23	26	-28	-25	-22	-16
70-74	9	13	15	26	23	35	17	21	-6	-14	24	31	13	20	21	22	-3	-9	+8	+2
75+	15	24	15	28	19	43	15	18	-4	-25	26	48	19	24	19	20	-7	-28	0	-4
N.S.	1	-	-	-	-	-	3	-	+3	-	-	-	-	-	-	-	-	-	-	-
TOTAL	1692	1673	1902	1875	2130	2093	1435	1370	-695	-723	2378	2308	1546	1515	1293	1237	-1085	-1071	-253	-278
	3365		3777		4223		2805		-1418		4686		3061		2530		-2156		-531	

- Notes: i (A₁) refers to actual Census data; (A₂) refers to actual data from Rotuma Resource Survey, M.A.F.
 ii (E¹) refers to estimated population figures
 iii N.S. Ages not specified
 iv Survival rates calculated from the Registrar-General Age specific death rates (1976)
 v 1967-76 birth based on the General Fertility Rate (Fiji) for those respective years.
 1977-81 birth based on previous decades figures.
 vi Sex-distribution of births calculated from 1970-76 average.

period, or 531 in the 1976-81 period, or 2156 in the 1966-81 period, as some of that total is births that would have occurred had women of childbearing age not moved away. However, it shows that net emigration from Rotuma was roughly at 4-5% of total population each year.

The table also shows that it is the younger age groups that had the greatest propensity to migrate. Sixty percent of emigrants were aged between 15 and 29 years - at least the greatest losses were amongst those who would have been aged 15-29 years in 1976. Looking at a specific example, it can be seen that in 1966 there were 283 boys aged 10-14 years, and 254 girls. In 1976, when these children would have been 20-24 years, only 78 and 65 respectively were enumerated in Rotuma. From survival rates alone, 280 and 252 would have been expected. Thus of this single age band, 72% and 74% respectively left Rotuma during the 1966-76 period. This is an exceptionally high rate of emigration.

Table 12 records similar rates of emigration for other age groups. As the table shows, in the 1966-76 period the heaviest out migration is amongst those who would have been aged 20-29 at the time of the 1976 census. In the 1976-81 period the heaviest out migration is amongst those who would have been aged 15-24 at the time of the 1981 survey. Other studies (Ponter, 1974), both within Fiji and in other Pacific countries, have confirmed this pattern of a very age specific movement. It is the younger, often more able and perhaps better qualified people who tend to leave the rural areas, resulting in a more unbalanced age structure. The relative proportion of the economically productive falls and the number of old and school age children increases. This itself could be enough to reduce per capita output and productivity from subsistence and commercial production in the areas that are experiencing net out migration. The burden on the remaining numbers of economically active is thus increased, as the dependency ratio rises accordingly.

The majority of Rotumans outside Rotuma live in Suva (60% in 1976 re Table 6). In order to examine migration flows over the 1970-76 period, Table 13 is presented. The original table in the census measured province of usual residence in 1970 against province of enumeration in 1976. Using this, one can equate the various provincial totals with migration into and out of Rotuma (Table 13 assumes that annual flows 1970-76 were constant). It can thus be seen that the only really

Table 12: Emigration Rates by Age and Sex 1966-76

(i) Age at 1976 Census (ii) Age at 1981 Survey	(i) Percentage that migrated 1966-1976		(ii) Percentage that migrated 1976-1981	
	Male	Female	Male	Female
10-14	5%	2%	22%	12%
15-19	43%	60%	46%	51%
20-24	72%	74%	55%	34%
25-29	67%	54%	14%	11%
30-34	25%	31%	0	8%
35-39	24%	13%	0	20%

Source: Calculated from Table 11.

Table 13: Migrant Destinations Annual Flows, 1970-76

Province	Population Moving to Province	In-Migration to Rotuma	Net Migration
Ba	15	8	-7
Bua	1	0	-7
Cakaudrove	2	0	-2
Kadavu	1	0	-1
Lau	1	0	-1
Lomaiviti	3	1	-2
Macuata	2	1	-1
Nadroga-Navosa	1	0	-1
Naitasiri	26	0	-26
Namosi	0	0	0
Ra	2	0	-2
Rewa	82	19	-63
Serua	0	0	0
Tailevu	3	0	-3
TOTAL	139	29	-110

Source: Calculated from 1976 Census.

significant migration flows are outwards from Rotuma to Rewa and Naitasisi Provinces i.e. Suva. These two Provinces constitute 81% of total net migrant destinations. Thus to 1976 the migration pattern from Rotuma was one moving directly to the nation's capital.

The density of the islands' population is interesting. In terms of persons per square kilometre, the figure moves from 64 in 1946, 68 in 1956, 74 in 1966 to 62 in 1976. This is far higher than Fiji's national average rate of population density in rural areas (20 persons per square kilometre), obviously supporting the theory that Rotuma is in a unique position within the Fijian context, being a highly fertile island.

According to census reports since 1956, the number of households on Rotuma has increased from 428 in 1956 to 491 in 1966, and fell to 481 in 1976. The implications for average household size are drawn out in Table 14. As the table shows, there has been a large reduction in average household size over the 1956-76 period, the fall being equal to 1.5 persons per household. However, it should be noted that although population fell over the 20 year period, the actual number of households increased from 428 to 481.

Table 14: Average Household Size: 1956-76

	No. of Households	Population	Average h/h Size
1956	428	3,122	7.3
1966	491	3,365	6.8
1976	481	2,805	5.8

Source: 1956, 1966 and 1976 Censi.

CHAPTER FOUR: INFORMATION SOURCES AND
SAMPLE SURVEY METHODS

The previous information presented indicates that Rotuma is experiencing a high amount of out migration, especially to Suva, particularly since 1966. What has occurred in the seven years since the census of 1976? One potentially significant alteration in the mobility options facing Rotumans took place in May 1981 when an airport was opened on Rotuma. This provided Rotumans with the opportunity of being in Suva in one and a half hours, rather than spending three days on an inter-Island cargo boat. Their access to the outside world was suddenly and dramatically altered.

Would this mean that great numbers would leave Rotuma or would the reverse occur as Rotumans returned to their homeland? Who would leave and why would they leave? The documented experience of Island cases around the Pacific would suggest that following the improvement of transport links island populations undergo pronounced compositional and absolute change (Bedford, 1981).

One extremely important deduction can be made from a simple projection of the existing out migration trend on Rotuma. A calculation based on the 1976 base year and using the trend between 1966 and 1976 shows, all other things equal, that the island could potentially lose its population by the year 2005. This would be a prospective population decline of momentous proportions. The calculation provides only a broad guide to an extreme outcome which might be envisaged given current knowledge of population trends on the island. Such projections give little account to altered circumstances on the island or in likely recipient areas.

Detail about the movement of Islanders to and from Rotuma in the years following the airport construction and the start of the regular airline service would enable concerned islanders to grasp the extent and something of the character of change which has been under way over the past seven years.

This study was designed to answer the basic question of what alterations in population movement characterised the period immediately following the new airline service. The question posed is unanswerable using published census sources. Accordingly information was collected using a sample survey of the island population in 1983.

In order to define some attainable objectives the scope of the inquiry was narrowed to an investigation just of the mobility of people between Rotuma and the main islands of Fiji. Specifically base information was sought which would enable a picture to be created of the movements of any groups in the island's population. To construct this picture, however, detail was required on all those people who were living on Rotuma in 1983, and had always lived there or had migrated to Rotuma; all those who had been there at the time of the 1976 census and were not any more, either because they had migrated, or had died; and any who had spent time on Rotuma between the census and survey date for a period of three months or more. The definition of a migrant (to or from the island) for the questionnaire purposes was a move of a duration of three months. This followed Bedford's (1981) understanding of the problem of definition in migration as discussed in Chapter One. This data was compiled by a sample survey, the details of which are discussed below.

Information on the introduction and extent of the airline service is crucial for an appreciation of the patterns of movement during and after the airport's construction and operation. To this must be added a breakdown of shipping schedules and passenger numbers, the sources of which are referred to later in the chapter.

It was decided to limit the study of those moving to just Rotumans. This step was taken only after it was found the entry in the 1976 census which listed 98 non-Rotumans out of a total population of 2805 was unusually high. Advice from Rotuma suggested that this number of 98 was high in 1976 as the large airport construction crew were inhabitants on the Island and the number would be much lower in 1983. Thus, although some occasional oddities may be found in the population living on the Island, the population in 1983 could meaningfully be regarded as entirely composed of Rotumans. This meant the target population was the whole population of the Island.

A major difficulty was the choice of a suitable sample frame. The 1976 census was too dated and was an inaccessible source for household names and dwelling location. The strategy adopted was to define the sample unit as the household and then proceed to devise ways of compiling a list of households and the most appropriate way of choosing households for contact. The definition followed was that conventionally adhered to by the Fiji Census Bureau, being those persons who usually eat together food prepared for them in the same kitchen and who together share the work and cost of providing the food. The most effective method for preparing a sample frame, on the basis of information to hand, was to embark, on arrival at the island, on a reconnaissance survey of the whole island. This tedious but nevertheless accurate method was decided on to ensure a complete frame from which the random sample could be drawn.

Several interviewed officials had noted a Nurses Register of the Island's entire population divided into the seven districts by village and by household. The register was reputedly updated every six months and this was seen as a useful guide to the field accuracy of the reconnaissance survey.

One conceptual difficulty which seemed as though it would pose problems in the field was the case of a household in existence in 1978 which had disappeared by 1983. The reconnaissance survey was seen as the best way to deal with this point. Those empty dwellings would be noted and correlated to the Nurses Register. Those individuals who had changed households would be sampled in the questionnaire but those households where the entire population had migrated would be missed. While this could cause some bias in the sample it was unavoidable. Bedford (1981) however has stated this is an acceptable empirical limitation of modern migration studies.

The size of the sample and sampling strategy were chosen on the basis of a trade-off between a time constraint and a desire to obtain reasonable population estimates. The availability of an interpreter for six out of seven weeks on the island set the maximum period of time for questionnaire application. However, a projected two weeks for the initial island orientation and reconnaissance survey brought back the time available for

interviewing to four weeks. A rough calculation was made of the number of questionnaires that could be applied to households in a week. This was optimistically set at 25, and with 4 weeks; a total of 100 household interviews was set as the target sample. The sample size adopted imposes some restrictions on the interpretation of the findings, especially when projecting sample estimates of proportions to the population as a whole. Two examples illustrate this problem (Appendix C1). The worst case of 50 percent in two groups results in a confidence interval of $\pm 10\%$ at 95 percent confidence level. At the other extreme, say 10 and 90 percent in different groups yields a confidence interval of $\pm 6\%$ at 95 percent confidence level. In Chapter Five important results are converted to percentages and conclusions are drawn about their applicability to the island population at the time, taking into account confidence limits.

To improve the precision of the estimate substantially would require more than doubling sample size and would entail a census rather than a sample. The standard error of estimate is a function of sample size, not population size.

Initial attempts at preparing a questionnaire saw the preparation of a document which asked many questions about intention and motivations, along with straight requests for facts about movement. It was felt this was unnecessarily expanding the size of the inquiry so the more interpretive questions, with one major exception, were deleted. The final questionnaire (Appendix A1) posed questions on household data, demographic data on each resident, and mobility information of residents over a period of years.

Contrary to the convention followed in the Fijian Census it was decided to apply a separate questionnaire to each person in the household. This necessitated the preparation of 800 questionnaires for transport to the Island. The figure of 800 was arrived at after a consideration of average household size at the 1976 census.

The advisability of implementing the questionnaire orally or in a written form was examined. If it was to be written it had to be in Rotuman, an impossible undertaking for the author. The oral approach enabled the

services of an interpreter to be used and was also judged to give greater prospects of accurate completion. The questionnaire was laid out in such a way that any household inconsistencies would immediately appear to the interviewer and the source of these could then be discussed with the respondent at the time of the interview.

Several special features of the questionnaire design and application are worth noting:

- (1) The 1978 Household base year respondent count was entered alongside the 1983 count as an initial check so no one would be left out or lost.
- (2) A previously prepared calendar, showing special Island events and including the boat timetable, was taken to each household interview to help memory recall, and be used as a check for applied information (Appendix A2).
- (3) The questionnaire was also laid out to facilitate coding in the field. To make the collection of data easier, some simple classifications were devised, e.g. 'now', 'then' and 'transient'.

Several modifications to the questionnaire were needed on arrival on Rotuma. An important modification had to be made to the original three simple classifications in the question on residential households so as to allow for the disappearing households. The 'now' had to be altered to include only those who had been living in that household in January 1978 and were still there at the time of the sample. Other residents became grouped in categories for those living in that particular household 'now' but not in January 1978 due to a change of household. In addition, only those born on Rotuma after January 1978 were enumerated in this category.

Another category for those who had migrated to Rotuma was created. The 'then' category was split to include only those who had migrated off the Island. Those who had left a household but not the Island were ignored as they were living in other households on the Island and would have been sampled twice if counted here. A separate category for those who were deceased was also included; again to avoid possible error and over-representation in the migration figures.

Several questions had 'other' as a possible response but always an explanation was asked from the respondent and if given, recorded. This allowed for a recoding if a significant proportion appeared. Thus it was impossible to code in the field until all questionnaires had been completed and checked. The final codes were decided on once the full data was to hand on the Island and several categories were confirmed as appropriate after discussions with knowledgeable islanders.

The Nurses Register proved to be not up to date, but nevertheless provided an excellent base for the reconnaissance survey. Those which appeared on its list and were not found on the ground became the author's list of disappearing households (Appendix A3). Figure 8 and Figure 9 are examples of the disappearing households. They show the obviously empty dwellings that were easily identified during the reconnaissance survey of Rotuma in 1983.

It was also suggested that prior warning be given to households before arriving to conduct the interviews, so an introductory letter was prepared and translated into Rotuman (Appendix A4).

No particular problems were encountered in the sample survey. The projected number of visits were made. Advance notice worked well. A noticeable proportion of respondents had already given thought to their particular movement patterns and had written details down for use when the interviewer called. Minor rescheduling was needed because of Rotuman observances of Sunday (Church) and Wednesdays (obligatory 'bush day' when all adult males must work all day on their plantations), and common courtesy due to funeral and other ceremonial occasions.

Difficulty arose with the definition of the head of the household. As discussed in Chapter 2, land rights and therefore house structures are inherited matrilineally. Therefore the senior female in each household should be regarded as the head. The questionnaire status categories had already applied a Western Civilisation gender of male to be head and other category wife. At the start of each interview the interviewer diplomatically asked to speak to the head and found the vast majority to be the senior males of the household, though often during the interviewing he consulted with the senior female or any other

The Disappearing Households of Rotuma



Figure 8



Figure 9

household member to ensure completely accurate information was collected.

The interpreter, Mr M. Samuela, an educated and respected Rotuman was most helpful in the application of the questionnaire, as the majority of interviews were conducted in Rotuman. He was well versed in the questionnaire and had the added advantage of knowing almost the entire Island population personally as he had been employed in the only Post Office on the Island for several years, and this certainly introduced the author to all the householders with ease. Strong support came from the Rotuma Island Council which actively encouraged and promoted the visitation of this author to Rotuman households. The nature of entry to the Island and the terms of stay were supported by the Rotuma Island Council and without this favourable assistance the field research would have been impossible.

The Reconnaissance survey was checked for consistency against the Nurse's Register, and with local elders and personalities. There were no problems in identifying households selected in the random sample (Appendix A9), and no difficulties in the application of the questionnaire. A 100% response rate was gained as the questionnaire contained nothing controversial as far as the residents were concerned. The advance warning and calendar meant historical detail was reasonably accurate. The appropriate statistical test indicated that the 1983 Rotuma sample is a random sample and therefore the survey results can be stated with reasonable confidence (Appendix C2).

Transport data was provided by the District Officer, who produced a list of all government boats visiting Rotuma since 1978 (Appendix A5). As well, the author was supplied with a list of all supply boats chartered by the Rotuma Cooperative Association (Appendix A6). A complete list of all passenger aircraft visiting Rotuma was supplied by an Air Fiji Association representative on Rotuma (Appendix A8). Unfortunately passenger lists and accurate passenger numbers were unavailable. Simple calculations of numbers moving can be made by using the maximum seats available in aircraft. Further local officials believe a boat never leaves Rotuma with an empty berth which, in turn, allows a calculation of numbers travelling by boat. These aspects will be covered in full in Chapter Five.

Table 15: 1983 Sample Survey Summary

Year	1983	1976 (Census)
Island Population	2500*	2805
Number of Households on Island	468	458
Number of Households Randomly Selected	100	
Number of Households Successfully Approached	100	
Number of Completed Questionnaires	732	

* Medical Survey Team July 1983

CHAPTER FIVE: DYNAMICS OF ROTUMAN
POPULATION MOVEMENT

Introduction

The demographic implications of the 'disappearance' of the teenage group from the Islands population between 1966 and 1976 has almost gone unrecognised in official circles. A Fijian planning document, 'Rotuma, Report of Survey', Central Planning Office December 28th 1979, did acknowledge the reduction in young people, aged between 15 and 29 years, which was identified in the 1976 census. Beyond this they offered no interpretive comment. This omission was serious because the original reason for the preparation of the report was the compilation of information for Fiji's Eighth Development Plan 1981-1985. In the final analysis the document was not used as an input to the 5 year plan and the implications of the age/specific out migration were not examined at the Central Government level.

In contrast the island community was acutely aware of the exodus of young people but not the potential implications of this population movement. Their reaction to this massive movement of youth was to search for economic enterprises which would give employment opportunities comparable in earnings to those available to young people in Suva. A popular venture promoted by local leaders was the construction of a juice extraction plant to take advantage of the Island's large orange production (as seen in their eyes). This insistence led to the Central Government appointment of an official research mission whose objective was to compile an extensive agricultural impact report. The irony of this initiative was the complete misunderstanding of the local situation by the overseas experts. In particular they failed to appreciate the fact that their suggestions for an agricultural strategy were simply unattainable given the demographic composition of the remaining residents on the island. The estimate of the work force calculated from the Ministry of Agriculture and Fisheries 'Rotuma Resource Survey 1981' was lacking in detail. The absence of a youthful work force, considering only males 20-30 years, went undetected in these reports. (133 people who could fit this category were identified in the 1976 Census). Certainly no reference was made to such information in the document, Rotuma Land Development Study, April 1982.

The composition of the Island population thus remains a matter of vital interest to residents on Rotuma. Moreover the pattern of 1983 is very much a product of the peculiarities of natural increase and migration which had taken place in the preceding decade.

Since the census of 1976, Rotuma has continued to have net out migration. As discussed in Chapter 3 the trend, based on the Agricultural Population Census of the island, continued at the same rate of decline for the 1976-1981 period as it had between 1966 and 1976. In the remaining two years if the trend had continued at the same rate one would have expected to find a population of 2,300 on Rotuma in mid-1983. However this was not the case. During July 1983 a Health Survey team visited the Island for a week and carried out a population census. They only attained a gross raw number count, with unfortunately no age or sex breakdowns. Their findings gave the Island a population of 2,500 and even allowing a 5% margin of error it shows the Island's population did not continue to decline as it had done in the 1966-1981 period. Something occurred in the 1981-83 period that changed the rate of net migration decline. Other Island communities have had an alteration in population mobility when a major transport change has taken place. The sample survey of Rotuma is however only suggestive of a gross population increase and possibly a net population increase with the new air link. The actual extent and explanation of and for the trend will be discussed shortly.

The basic fact still remains that between 1976 and 1983 people did migrate from Rotuma. There are significant groups within the Island society that are migrating and are not migrating. What follows is a breakdown of demographic data for these subgroups that appeared in the 1983 sample survey.

As noted in Chapter 3 the Rotuma migration pattern is little over a generation old. Bryant (1974) has noted certain influences affecting those involved in this movement as being in their infancy. Ponter (1975) states that, generally, younger people are more likely to migrate than older people, single persons rather than married, men rather than women, better educated rather than less well educated. Thus, generally speaking, the members of the population who are most likely to migrate are young, male, unmarried with above average education, while the persons who are least likely to migrate are older, female, married, most likely with several children, and

with below average education. Generalisations of this kind are comparable to the claims made for universal migration models but they are nonetheless useful guides from prior experience of other communities. Evidence at least indicates the Rotuman experience has aspects in common with those of other Pacific Island populations.

Characteristics of Population Movement

Movement From Rotuma

Since January 1978 it has been predominantly the younger people who have left Rotuma. The sample survey of 100 households resulted in a total of 118 individuals who were classified as "thens", being those who had been living within the households in January 1978 and had left through migration. This classification allowed for those who had left in the 3 months prior to the collection of sample data and who would return in the near future to be included, thus not fitting the definition of maximum time period away. However, for coding purposes these respondents were enumerated here, and, working with a 5% confidence level, can be ignored as a possible bias.

Table B1 (Appendix B) clearly shows the extent of the younger age group leaving Rotuma. Sixty nine individuals between the ages of 13 and 22 migrated to Suva in this period, which is a massive 58.5% of the total migrants sampled. Proportional to the Island population as a whole this figure is over represented, since it is only 14.5% who usually make up this age group (1976 Census data). No other age group is over represented; rather all other age groups are slightly under represented in percentage terms due to this massive movement of Islanders in their later teens and early twenties.

Rotuma's experience has a special character. It is not the males who are moving away in huge numbers and the females being left behind as in previous Pacific Island studies. The base data from the 1976 Census gives the Island a population of 1435 males and 1370 females, or 51.2% males and 48.8% females, while the sample gave an exact 50% division between the sexes of migrants, being 59 males and 59 females, making up the total of 118 out-migrants (Table B2; Appendix B).

Females and males migrate from Rotuma in an equal number and proportionally in accordance with the general Island population.

Of the 118 out-migrants in the 1978-1983 sample period a massive 79.7% were single (actual number 94) while only 17 were married, representing a small 14.4%, while 7 (5.9%) were either widowed or unattached (de facto), giving an overall percentage of 85.6 non-married migrants. Certainly in Rotuma's case it is the single who are more likely to migrate from the Island, rather than the married individuals (Table B3; Appendix B).

Migration in relation to education needs some background comment. One must first define what is an average education for a Rotuman. Until the 1950's young islanders could only attain a Primary education on Rotuma. Two secondary Schools - St. Michael's College (Forms 3 and 4) and Malhaha High School (Forms 1-4) were established in 1953 and 1955 respectively. These two schools were amalgamated in 1968 to form the present Rotuma Junior Secondary School (Forms 1-5) located at Malhaha. Therefore a reasonable supposition is that anyone over the age of 40 will not have an education higher than primary level, if that individual has remained on Rotuma their entire life. Even today the highest level attainable on Rotuma is Form 5 and the attempted qualification is New Zealand School Certificate. Thus the average education level of a Rotuman who has been educated solely on Rotuma is lower than the Rotuma community in Suva, as the advanced opportunities are not available on the Island. Following the line of reasoning, Rotuma's average education level must be, when applied to the entire population, approximately equal to Form 1 (A primary education).

Upon reflection of the Table B4 (Appendix B) depicting education level, it is certainly the above average educated individual who is migrating from Rotuma. In conjunction Table B5 (Appendix B) outlining occupation is also reviewed. A massive 60 individuals or (50.8%) of migrants are shown as having left Rotuma as school students while 36.4% left as subsistence farmers or domestics (housewives). Ninety one or 77.1% of individuals leaving Rotuma have an education level higher than Primary. Thus it is both school students with a higher than Rotuman average education level who are migrating, and partly subsistence farmers and domestics who have had more than a primary education.

Considering Islanders can only attain a tertiary qualification away from Rotuma, an interesting eight individuals or 6.8% of migrants leaving Rotuma have such a qualification. This suggests that educated Rotumans do return to their home Island, but sometimes choose to migrate away again.

Only 3 individuals migrated who had no education and these were all children under the age of 5, thus all sampled migrants do have at least some education.

A pertinent division of the population is the identification of religious groups. Rotuma as a whole, has a population of approximately 60% Methodists and 40% Catholics (1976 Census). The entire sample of 732 individuals has a breakdown of 62.3% Methodist, 34.6% Catholic and 3.1% other, being the proportional split expected. The sample survey recorded 86 migrants as Methodists and 32 who were Catholic, or 82.9% Methodist and 27.1% Catholic (Table B6; Appendix B). This amounted to an over representation of Methodists amongst out migrants.

One can explain this from personal observations on Rotuma. It appears the Catholic community on Rotuma encourages the young, particularly males, to leave school at approximately the Form 2 level and become subsistence farmers, while the Methodist community encourages its young to attain the highest education possible. This group bias appears to have been successfully identified, as the majority of school children migrants leaving Rotuma are Methodists. If the Catholic policy changed one could only surmise an even larger increase in the number of young migrants.

Movement Into Rotuma

An interesting counter stream of migrants was identified in the sample survey. The sample uncovered 86 individuals who had migrated to Rotuma since January 1978 (Tables B9-B18; Appendix B).

Table B9 (Appendix B) suggests a movement of the younger Rotumans to Rotuma is underway. A sizeable 30.2% of migrants to Rotuma were under the age of 5. However 12 of the 26 children are migrants to Rotuma by definition only. That is, they were born in Fiji and now live on Rotuma only because their mothers were sent to Suva to give birth on medical advice from the doctor on Rotuma. Correctly they should be counted as non-migrant Rotumans. The Fijian census definition of a migrant however, is taken from their place of birth or from the previous place of residence at the last census. As these children were not born at the last census they must be classified from place of birth, being Fiji, and so they are migrants to Rotuma by definition only. However, the other 14 children

did migrate to Rotuma under different circumstances while under the age of 5, and represent an important proportion of the in-migrating sample population. A very large 81.4% of migrants to Rotuma are under the age of 35; 15.1% of these are of school age (5 to 14 years) while 36% are between 15 and 34. Only 18.6% of migrants to Rotuma are over 34 years of age.

Certainly, if it is the young who are leaving Rotuma in number, they are also moving to the Island in significantly larger proportions than the older generations.

One can make the same comparison with the migrants entering Rotuma in regard to sex. While 50 migrants to Rotuma were male, 36 were female, or 58.1% male and 41.9% female (Table B10; Appendix B). Migrants leaving Rotuma leave in equal numbers in relation to sex, and the sample indicated statistically that there was no significant difference between the two sexes, therefore both males and females move to Rotuma in similar proportions.

It will be extremely interesting to view the 1986 Fijian census age/sex pyramid for Rotuma. World population figures suggest a 49.8% female, 50.2% male breakdown (United Nations Calculation). Rotuma's 1976 Census figures of 51.2% male and 48.8% female suggested that a small trend had begun toward an over-representation of males. The latest in-migration sample figures neither confirm nor deny this trend. However, one must appreciate that Rotuma's migration pattern is only in its infancy and involves a small number of people. A sex orientated Rotuma counter migration trend would be worthy of future research as the full ramifications of the sex ratio are barely noticeable at this stage.

Obviously because of the high proportion of migrants to Rotuma being below the age of 15 one would expect a high proportion to be also single. As expected 58 (67.4%) were single, while 4 were widowed and only 1 in a de facto relationship, leaving 23 (26.7%) migrants with the marital status of being married (Table B11; Appendix B). On the surface this would tend to suggest that it is the single individual who is migrating to Rotuma. If one only looks at those in the marrying age group (e.g. 39 children or 45.3% of incoming migrants are dropped from the equation), it leaves the figures of 19 single and 23 married adult migrants with the

new percentages of 40.4% single and 48.9% married, while 10.6% are widowed or in a de facto status. One now becomes aware that when considering only adult migrants to the Island it is both married and single individuals who are migrating in comparable proportions to Rotuma.

A review of Table B12 (Appendix B), shows that it is not exclusively the better educated who are migrating to Rotuma. Again it is extremely difficult by definition to account for migrants of above average education, but if the 36 individuals who at the time of migration were at an age when they could only attain a primary education or were too young to attend school were removed, it leaves the figures of 11 (22%) with a tertiary education, 7 (14%) with a high school education above form 4, while 20 (40%) had a lower high school education and 12 (24%) had a primary education. This gives a combined total of 64% of migrants who have an education lower than New Zealand School Certificate level, while 36% have a more advanced education. Certainly the 22% of migrants within the education level migrant age group with a tertiary education are important, but the 64% of migrants with an 'average' Rotuman education suggest that it is not always the better educated who are migrating to Rotuma. One must remember that 6.8% of migrants leaving Rotuma have a tertiary education, thus those arriving must be in high numbers to sustain such an outflow.

While it appeared it was the Methodists who were migrating from Rotuma in large numbers, a reverse trend is apparent when migrants to Rotuma are examined by religious affiliation. Of those sampled entering Rotuma 44 (51.2%) were Methodist, 35 (40.7%) Catholic, and 7 (8.1%) other (7th Day Adventists in this case), (Table B14; Appendix B). Remember the entire Island has a 60/40% split Methodist/Catholic and the out-migrants a 73/27% Methodist/Catholic split. The statistical test for the incoming migrants indicates no significant difference between the proportion of Methodists and Catholics arriving on Rotuma. If one reviews the Catholic figures, 27% of migrants leaving were Catholic while 40.7% arriving are Catholic. There is however a significant difference between the number of out going Methodists and in coming Methodists. A significantly smaller number of Methodists are arriving on Rotuma than are leaving. An interesting point is the 8.1% sampled migrants to Rotuma who belong to religions other than the two traditionally found on the Island, suggesting outside religious groups may be a growing feature.

If one applies the 'place of birth' census definition qualification to the incoming migrants an interesting fact is uncovered (Table B16; Appendix B). An exact 50/50 split is noticeable among migrants. Fifty percent were born on Rotuma while 50% were born in Fiji, suggesting there is an important proportion of migrants returning to Rotuma who had originally migrated from Rotuma, while the 50% who were born in Fiji is also notable, even when allowing for the 12 children born to Rotuman resident mothers who just flew to the main Fijian Islands for the birth. The movement of Rotuman born migrants creating a circular migration pattern has been lost in previous Fijian censi. The journeys, carried out within the intercensi period, are over looked and have gone unnoticed in official Fijian demographic data. It now appears that Bedford's circular migration concept in the Fijian Lau group may also be a meaningful one to apply to the Rotuman example. (Bedford, 1980).

Table B13 (Appendix B) depicting occupations of incoming migrants to Rotuma shows no dominant occupation. A broad spectrum is represented. One pertinent point can be noted though. It is not retired Rotumans who are migrating to Rotuma to live in large numbers, as suggested in the Rotuma Anniversary booklet compiled by the Rotuman community in Suva, and also suggested by leaders on Rotuma as the trend that will counter net out migration. Rotuman born migrants from the past thirty years are not returning to their homeland upon retirement. But one must note because the migration has not proceeded for many decades there would not be many in this category at present. The sample survey results indicate the Islanders may be living in false hope expecting a large influx of retired Rotumans in the next decade.

Table B13 (Appendix B) depicting occupation read in conjunction with Table B18 (Appendix B) containing the reasons given by sampled migrants for their coming or return to Rotuma provides a further finding. There are four important categories that appear in Table B18 which are worthy of comment. Twenty-one of the 86 migrants, or 24%, migrated to the Island so they could farm land on Rotuma. (This figure included husband and wife combinations). This is potentially significant.

Following are further pertinent comments revealed during the interviews. The figure of twenty one farming migrants can be further divided as it is

made up from two types. One is the young component of migrants (20 to 30 years of age) who are returning to Rotuma to be subsistence farmers, as they have previously migrated to Suva in hope of employment and have not obtained it and realise that Suva is "not always what it is cracked up to be". These individuals, usually males, typically stay in Suva for a six month period then return to Rotuma to begin farming. This is the present plight of the young uneducated Rotuman. The other half of the farming migrants are a very different group. There were six married couples identified in the sample who were forced to migrate to Rotuma to farm family land as the parents or grandparents were too old to farm on their own and there was no one else available to cultivate the family land. The extended family is afraid of losing the use of the land so puts pressure on family members in Suva to migrate to Rotuma and farm the land. Of the six males, two were in the Navy, one being a commissioned officer, two were policeman, one an army officer and the sixth held a managerial position in a large firm in Suva. All six had excellent jobs with favourable salaries; certainly they were earning a lot more than being subsistence farmers on Rotuma. They chose to migrate to Rotuma to be farmers in five cases solely because of family pressure associated with land tenure. Only one of the six saw a better life for his family on Rotuma. Pressure on him to return was two-fold. He was expected to farm family land, and to become a district subchief to continue the history of chieftomship in the district.

Another important group, the largest of the incoming migrants, is the collection of individuals with the reason 'accompany Guardian'. This is a non-individual choice category, making up 30 of the 86 migrants or 34.9% of the sampled incoming Rotuman migrants. This helps to explain the high proportion of younger migrants to Rotuma. The married couples who are migrating to the Island are arriving with families. This figure also represents the 12 babies born in Suva to mothers who are normally resident in Rotuma and returned to the Island after the birth.

Category C, those on a job transfer, make up 23.2% of incoming migrants found in the sample. While this is fairly high it is expected and normal for a semi-developed isolated Pacific Island. An inspection of Table B13 depicting occupation reveals who and why these 20 individuals are migrating to Rotuma. This number is made up of 5 school teachers on transfer, 5 individuals working in the religious field, either nuns or Methodist

ministers on transfer, also two Rotuma Co-operative Association employed individuals, and 7 others who were on transfer for the Public Works Department, Post Office, or other government services. Several of these migrants fit this category by definition only. They are on Rotuma for longer than a 3 month visit but they may be on the Island only for 1,2 or 3 years. However, they must be classed as migrants, as they do become part of Rotuman society and assimilate into the local community for an extended time period, even though they will probably eventually move elsewhere.

The fourth category of migrants to Rotuma is a group of 12 individuals whose significance is possibly great, in spite of the wide band associated with the sample proportions. Fourteen percent of incoming migrants sampled have the category of 'Migrate to live with Grandparents'. These 12 young children have been sent to Rotuma by their parents, who are usually both working in Suva, to be brought up by the Grandparents on the Island. This is possibly a direct result of the air link. Table B18 (Appendix B) shows how the number of migrants who come to Rotuma to live with their Grandparents has increased over time, through the survey period 1978-1983, though one must remember the 1983 figure is for only 6 months. For the period before the air link only 3 (25%) of these migrants came to Rotuma in a 3 year time span, while 9 (75%) arrived in the two year period since the airport opened (Confidence Interval ± 24.5 ; Significant Difference). Some parents now send their children by plane to Rotuma, sometimes when they are only a few months old, to be brought up in the extended family and to learn the Rotuman way of life. There is also a financial consideration. In the past this did not occur. Instead, grandparents (particularly the grandmother but often both) migrated to Suva and lived with their children and took care of their grandchild in an extended family situation. The pattern has an unusual side effect in that for each new migrant in this category coming to Rotuma two out migrants can be thought of as cancelled. Following this line of reasoning, for the sample alone, some 36 more individuals are living on Rotuma as a direct result of this new trend, due to the new airport (Confidence Interval ± 15). The 3 grandchildren who arrived before the airport was operational could be explained by the vast increase in boat frequencies due to the construction of the airport (Appendix A5 and A6).

In the two year period since the airport opening 51 or 59.3% of migrants arrived on Rotuma (Table B17; Appendix B). In the pre air-link 3 year period 1978-1980 only 35 or 40.7% had arrived. Although these percentages suggest a shift during the two periods, this cannot be concluded based on sample estimates. The trend can be supported by the observation that more migrants arrived by plane than boat in the first 6 months of 1983. In 1981 the same number of migrants arrived by boat as in the preceding two years, but a further 36% of incoming migrants in that year arrived by the new air link and the 1982 situation saw a 47% boat arrival/53% air arrival of migrants. While these percentages are not significantly different, they do provide valuable insights into what might be an important new movement pattern. Mobility by air would be worthy of longer term research.

It is with some reservation that only two incoming migrants to Rotuma are reported in the sample for the year 1978 (Table B17; Appendix B). A possible explanation is that more did arrive but left in the intervening period. These individuals are dealt with in the 'transient' classification of the sample. One still feels January 1978, giving the sample a 5½ year period, was not too far distant in Islanders' minds to provide accurate data given the interview procedure outlined in Chapter 4.

Multiple Movements

The sample identified 29 individuals who were classed as 'transients' by definition (Tables B19-B28; Appendix B). That is, they migrated to Rotuma within the 1978-83 sample period, but also migrated away from Rotuma in that period. The minimum time period for this category was designated as three months. Under these terms, they were by definition migrants rather than temporary visitors to Rotuma. The average duration of the 29 transient migrants (their length of stay on Rotuma) was 19.8 months, or 1 year, 7 months and 3 weeks.

These individuals became part of the Rotuman society for a lengthy period. Although the group is reasonably small in the sample, clearly some factors are at work which, over the years, have induced a number of people to travel to the Island to live for a period of time and then leave again. The actual composition of the group nevertheless does warrant some discussion because they provide a more complete picture of the dynamics of population mobility associated with Rotuma.

Table B19 (Appendix B) indicates that half the individuals are below the age of 25 and half above. This suggests that age is not a consideration in transience. No sexual bias can be spotted among these migrants with a fairly even split between males and females (Table B20; Appendix B). A significant proportion are unattached (either single, widowed, or de facto); 79.3% (Table B21; Appendix B). Married individuals, 20.7%, were under represented in the transient group. Along religious lines approximately the same 60/40 percent split is represented among transient Methodists and Catholics as is the proportion with the Rotuma 1976 Census population (Table B24; Appendix B). Their education level is also proportional to that found on the Island at the last Census (Table B22; Appendix B). Fifty two percent of the migrants were originally born on Rotuma (Table B26; Appendix B). These individuals must have moved from the Island pre sample. All transient individuals sampled were of Rotuman ethnicity. This suggests that very few non-Rotumans participate in the Island's migration pattern.

Over a third of the transient migrants sampled were domestics, (female housewives), while a fairly even proportion of other occupations is represented (Table B23; Appendix B). Three retired Rotumans visited the Island, but obviously did not decide upon permanent residency as a possibility. Seventeen of the 29 individuals or 58.6% of transient migrants entered households where their relationship to the head was not close, again indicating the semi-migratory status of these individuals. Over a third, 10 individuals, were either children of the head or the head or wife's brother or sister. This amounted to a close-knit extended family situation.

Nine transient migrants travelled to Rotuma for a special occasion (Table B28; Appendix B). Eight of these individuals made the trip in 1981. These Rotumans came for the May 1981 Centennial Celebrations and stayed on longer than the week's festive activities, and stayed at least three months, thus becoming migrants by definition. Also, another seven Rotumans came for extended holidays. The category composed of children is explained by five young grandchildren being sent to live with their grandparents, but who, for unknown reasons have returned to their parents in Suva. Also, three transient migrants moved to Rotuma to farm family land but returned to Suva. It was suggested during sample interviews that these individuals would not submit to family pressure to stay on the

land and saw a better life for themselves in Suva. Unfortunately one can only speculate, as the information is provided through voiced opinion on behalf of others, and is often second or third hand. Sometimes intent is not always what it seems.

From the transport data presented in Table B27 (Appendix B) it is evident that the introduction of the air link has not affected the flow of sampled transient migrants. Only a small number were identified in 1982 and no one was identified in the six months of 1983, as it would be too early in the transients' pattern for these individuals to have made their return trip to Suva. These migrants still resident on Rotuma were sampled in the migrants to Rotuma category already discussed.

CHAPTER SIX: CONCLUDING COMMENTS

The documented research on Rotuma's 1983 mobility processes, confirming a general migration pattern of the Islanders, is potentially important. It is the first research on migration carried out on Rotuma itself. In the past, Social Scientists have only speculated on Islanders' reasons for leaving Rotuma through drawing on general Census data. These figures often have not been obtained with any certainty, nor have they been presented in a form which would accurately record the mobility pattern.

Possibly because of the difficult access to the Island, Rotumans have been correctly quoted as the forgotten race of Fiji as regards migration, for example 'Rotuma is Fiji's Cinderella' (100 Years Centennial, p.17), by researchers who have published unsubstantiated speculations. The vital contribution of this thesis is that it identifies the dynamics of a sampled population's mobility through field research.

Most significantly, the sample identified two equally important migrations. Most interested parties in the past have been aware that an out migration from Rotuma was taking place, leading to a general depopulation of the Island. While it was true that an out migration was taking place, and a small depopulation was in existence, it was only speculation that it would continue and increase in volume. The 1983 sample findings suggest that a general depopulation of Rotuma is not taking place. In fact, the reverse is the case. The sample identified an important movement of Rotumans to Rotuma. While half the migrants to Rotuma were originally Rotuma-born, thus fitting a circular migration pattern unidentified till now, the other half had migrated to the Island because of ancestral links. It is indeed significant that there is a movement of Rotumans to Rotuma - it exists, and appears to be growing to the extent that the Island may now be experiencing a gross increase in population.

Mobility in its purest form means that members of the community have travelled from Rotuma at some time in their life. Previously it was thought that the majority of Rotumans born on Rotuma died on Rotuma without ever leaving the Island. However it is now obvious that Islanders' contact

with the outside world is strong. The sample did identify some important aspects to the dynamics of individuals involved in the Rotuman Migration pattern.

Rotuma's dependency ratio is changing. The sample identified an age-specific migration. Certainly young, adolescent individuals are leaving Rotuma, basically to obtain higher education not available on the Island, given the institutional structure of the Rotuman learning hierarchy. The dependency ratio has increased as a working-age generation is now missing from Rotuma Island's society. The identified in-migration has not countered this trend; rather it has added to it, since it is not working Rotumans in the twenty to thirty year age group who are migrants to the Island in large numbers.

Until this time the Methodist/Catholic origins of migration has gone unresearched and undocumented. The sample suggests that Methodists are leaving the Island in greater numbers than the Catholics, and also in greater proportion than the 60/40% religious split identified on the Island in the 1976 Census. The author can only speculate on possible reasons for this, based on witnessed observations on Rotuma and discussions with those in the clergy on the Island. The religious group other than Catholic or Methodist identified on Rotuma is important. The Seventh Day Adventist faith has become established on the Island because recent migrants have introduced it.

The structure of the Rotuman family membership is also of interest. The sample identified a potentially important group of incoming migrants as grandchildren of the head of the household. The extended family is being strengthened by the incoming migrants, with very young children arriving on the Island and being cared for on Rotuma, rather than Island households being split with the Head and his wife away in Suva caring for grandchildren there. If the dependency ratio increases it will be a strength in Rotuman society to have a strong extended family, since, living a subsistence lifestyle, each household must retain a suitable structure to support an adequate labour force to feed itself.

The air link has proven a major impact on Rotuma. A great amount of discussion took place prior to the construction of the airport, considering

possible advantages and disadvantages. The two main concerns were commercial enterprises and 'fa-Rotuma' (Rotuma way of life). While the Island Council, along with elders, was aware of a migration process, though to some extent ignorant of its extent at the time, this was not a consideration when discussing the air link, other than a possible negative aspect of a great influx of tourists.

The author's main concern was to identify the Rotuman migration pattern in 1983, 2 years after the airlink's beginning, and to ascertain the dynamics, while being vitally interested in any possible changes in the pattern identified from the 1976 Census data. Studies of migration in other Pacific Islands had shown declines in Island population with improvement in transport. The 1983 sample of Rotuma found that this is not the case in this particular instance. In fact, the reverse has occurred and it appears that the new air link has improved access to the Island and Rotumans are taking advantage of this and are migrating permanently back to the Island. The air link has also increased the general mobility (pure movement) of Rotuman Islanders, with several Islanders travelling to mainland Fiji by air for holidays or extended family visits who had never left Rotuma before.

While the author is not in a position to forecast the air link's influence on "Commerce" and "fa-Rotuma", some pertinent comments can be made based on personal observations obtained while on Rotuma. Two commercial enterprises have opened on the Island because of the air link which is providing a valuable supplementary income to those living a subsistence lifestyle. Those involved in these enterprises have experienced an altered lifestyle, and the elders' concern for the loss of 'fa-Rotuma' is well-founded. While no influx of tourists has begun and Rotuma remains a closed, traditional, ethnically Rotuman Society, internal pressure is apparent and an atmosphere of pending change was detected by the author during his stay.

An interesting circular mobility pattern was identified in the 1983 sample. Rotumans are moving to mainland Fiji for various reasons, and then returning again. A wide range of period of absence is represented and the intentions vary greatly. Several forces are at work on Rotuma, and within Fiji as a whole, influencing this mobility. While the sample

survey identifies various forms of movement, no one clear reason can be stated with confidence. The dynamics of the circular pattern are complex and indepth study of this was not possible in this research.

If one reason for mobility comes close to the universal it is employment opportunity. Rotuma must offer more to its young, ambitious, educated citizens. The Rotuma Island Council appears to appreciate this but has been unable to find a solution. The sample identified a significant number of out-migrants in the adolescent age group who left Rotuma to gain a higher education, and thus employment other than subsistence agriculture. If this group is to be encouraged to remain on the Island, or to return to the Island, urgent change is required.

The sample identified a small number of migrants to Rotuma who proved a counter stream to the first circular migration pattern discussed. They were identified as the transients, moving to Rotuma, then back to mainland Fiji again. Unfortunately the number was small so the results cannot be quoted with confidence other than to verify its existence and confirm that it provides a segment in the overall pattern.

Much research, some of it already discussed here, suggests that it is the male who is proportionally more mobile than the female. The overwhelming conclusion drawn from the 1983 sample is that there is no sexual bias in the migratory pattern of Rotuma. Both males and females actively participate in Rotuma's migration pattern. However, as noted in Chapter 5, a possible Island bias towards an overrepresentation of males appeared in the 1976 Census data.

One must appreciate that this is only one point in History. Change is an on-going process within our world, and within this society. The dynamics of Rotuma's mobility pattern are significant if one takes into account that the pattern is little more than two generations old.

The myth that Rotumans migrate from Rotuma due to pressure on land can now be totally dispelled. Not one out migrant was identified as leaving Rotuma because of overcrowding on land. There is abundant fertile, arable land on Rotuma and, this is possibly a force drawing migrants to Rotuma.

Future possibilities for Rotuma are many and varied. Certainly there is a need for employment on the Island. This may come with the new commercial enterprises, though perhaps at the expense of 'fa-Rotuma'. The educated, as well as the relatively uneducated, are moving to Rotuma. The dynamics of the in-migratory group do appear to be countering any bias that appeared in the out-migratory group.

It must be appreciated that the sample was taken in a 2 month period in 1983 and there has been a time lag between data collection, processing, and publishing. Hopefully a clearer picture will be revealed when the 1986 Census figures are published. Unfortunately any intercensal circular movement is missed in such a census.

This research has established the broad groups involved in the Rotuman mobility pattern and, to some extent, explains why. One should not cast a value judgement on the migration pattern and suggest it is good or bad, but rather accept the identified movement and acknowledge its influence on the Rotuman population at a certain time.

APPENDIX A:

BACKGROUND DATA

- A1 1983 Rotuma Sample Questionnaire
- A2 Questionnaire Calendar
- A3 1983 Reconnaissance Survey List of Disappearing Households from 1978 to 1983
- A4 Introductory Letter; Rotuman and English
- A5 Government Boat Trips to Rotuma 1978-1983
- A6 R.C.A. Charter Trips 1978-1983
- A7 Boat Passenger Capacity
- A8 Aircraft Visits to Rotuma 1981-1983 and Fiji Air-
Passenger Numbers for Those Leaving Rotuma
- A9 Sample Frame: 100 Households on Rotuma

Date _____

Household Number
Respondent Number
Location

Household Data (Head)

How many people live in this household?

	1983	1978
Total	_____	_____
Number of adult males	_____	_____
Adult females	_____	_____
Children (<15)	_____	_____

Was the household in existence in January 1978?

Yes (1) No (2)

Each Resident

Name _____

Classification 'Now' (1) 'Then' (2) 'Transient' (3)

Household Status of Respondent

head (1) wife (2) head's children (3)
head or wife's parents (4) Other (5) _____

What is your Religion?

Methodist (1) Catholic (2) Other (3) _____

Sex Male (1) Female (2)

Age (years) _____

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Place of birth Rotuma (1) Fiji (2) Other (3) _____

Marital Status Single (1) Married (2)
Widdowed (3) Other (4) _____

Education level (Highest level attained)

Tertiary (1) Secondary (>fourth) (2) Rotuma High (3)
Rotuma Primary (4) None (5)

Occupation (type) _____

Mobility/Migration

Have you travelled away from Rotuma since the beginning of 1978?

No (1) Yes (2)

If No finish here/If Yes go on

APPENDIX A2: QUESTIONNAIRE CALENDAR

Year \ Month	Month											
	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1978								*				
1979								*				
1980								*				
1981					A B			*				
1982								*				
1983												

* Church Conference Location: The first week in August each year.

1978 Keua Village Itumuta District

1979 Losa Village Itutiu District

1980 Feavai Village (Hapmafau) Itutiu District

1981 Motusa Village Itutiu District

1982 Else'e Village Malhaha District

A Centennial Celebrations

B Airport Opens

The Calendar contained the above special Island events, as well as important funerals held on Rotuma. All boats and aircraft visiting the Island were also included on the calendar (see Appendix A5, A6, A7).

APPENDIX A3: 1983 RECONNAISSANCE SURVEY LIST OF DISAPPEARING
HOUSEHOLDS FROM 1978 to 1983*

District Code Number	District Name	Internal Rotuma Movement or Deceased	Movement to Mainland Fiji	Total
District 1	Itumuta	4	5	9
District 2	Itutiu	19	10	29
District 3	Juju	5	4	9
District 4	Malhaha	4	1	5
District 5	Noa'tau	6	11	17
District 6	Oinafa	7	3	10
District 7	Pepjei	4	5	9
	TOTAL	49	39	88

* Constructed from ground observations during the 1983 Reconnaissance Survey and the Rotuma Island Nurses Register.

APPENDIX A4: INTRODUCTORY LETTER: ROTUMAN AND ENGLISH TRANSLATION

Noa'ia ko Gagaj,

Gou a'hae la rak'akia gou se aea. 'Otu asa le Chris Craddock - gou le' rak ne Massey University, Palmerston North, New Zealand.

Gou leum se Rotuma 'i la fa'ia 'otou resonit ne la a'vahia fakioag het ne gou pae sin - M.A. (Geography). Filo' ne resonit ne gou pa re mou se "la'la' on lelea Rotuma se Fiti" (Migration of Rotumans to Fiji).

Gou aier'ak ne ae la po la haiasoag 'otou amn' ak te'is ma ta 'on'on gou faksoroaf la ae la figalelei ka kepoi ka la vavhian ma gou la leuof 'e ta teran het la itar la haifaegag mea'mea'. Gou la as'ak la fakne'ne' se aea teranit ne gou la hele'uof se 'ou hanue ta. Ma 'on le'et tape'ma la leuof ag'esea ma gou la haiasoag 'otar haifaegag te'is.

Te his ne gou pa 'inea 'e reko 'ou Kaunohoag ta te':-

1. Ma'oi ne famor 'e ou Kaunohoag ta 'e fau te' is 1983 ma 'oris roggrog riri 'e on rerege.
2. Ma' oi ne famor 'e 'ou Kaunohoag ta 'e fau 1978 ma roggrog ne mou se irisa.
3. Ma 'on lelea' ne noh mea'mea' ma ae 'e ta avat 'e laloag ne fau rua ne 'ea sio 'e rere.
4. La'la' ne 'ou Kaunohoag ta - ma 'on lelea' la'sea se Fiti 'e laloag ne fau 'i 1978-1983? Ia la' 'e kisi? - av het ne ia ho'im - tes ta ia la' la re'ia - ma ia la' se utus 'e Fiti.

Gou airot'ak ne ae la haiasoag 'otou rako ma far te te'is.

Noa'ia.

(CHRIS CRADDOCK)

Dear Madam/Sir

My name is Chris Craddock, a student from Massey University, Palmerston North, New Zealand.

I came to Rotuma to do a research on the migration of Rotumans to Fiji. The objective of this research is to gather enough information to enable me to write my thesis for a 'masters degree' on Geography.

I am hopeful that you will be able to assist me especially if you can spare a time to discuss the movements of the members of your family when I visit you in the near future. I will do my best to forewarn you of the actual day of my visit.

The information which I would like to know are:-

1. The present number of people in your family.
2. How many people were in your family in 1978.
3. The number of people who stayed with the family between 1978 and 1983.
4. Family movements - how many went to Fiji between 1978-1983 - when did they travel? when they returned? what part of Fiji did they visit? the purpose of the visit.

I hope you will assist me to complete this exercise successfully.

Yours faithfully,

(Chris Craddock)

APPENDIX A5: GOVERNMENT BOAT TRIPS TO ROTUMA 1978-1983

<u>1978</u>	<u>1979</u>	<u>1980</u>	<u>1981</u>
Yabula - 7/6/78	Na Mataisau - 17/1/79	Yabula - 4/2/80	Yabula - 20/1/81
Na Mataisau - 7/7/78	Yabula - 20/2/79	Yabula - 28/3/80	Yabula - 1/2/81
Yabula - 18/8/78	Na Mataisau - 15/3/79	Yabula - 20/4/80	Dausoko - 18/2/81
Yabula - 4/9/78	Na Mataisau - 7/5/79	Dausoko - 25/6/80	Golea - 11/3/81
Na Mataisau - 6/10/78	Vasua - 25/5/79	Dausoko - 4/7/80	Yabula - 31/3/81
	Na Mataisau - 31/7/79	Yabula - 30/8/80	Golea - 5/4/81
	Na Mataisau - 13/8/79	Dausoko - 10/9/80	Golea - 15/4/81
	Na Mataisau - 21/9/79	Dausoko - 4/11/80	Golea - 28/4/81
	Yabula - 2/10/79	Na Mataisau - 8/12/80	Yabula - 8/6/81
	Na Mataisau - 30/11/79	Dausoko - 16/12/80	Yabula - 5/7/81
	Na Mataisau - 12/12/79		Yabula - 7/10/81
			Dausoko - 14/12/81
<u>1982</u>	<u>1983</u>		
Dausoko - 18/3/82	Dausoko - 7/1/83		
Dausoko - 18/6/82	Dausoko - 21/2/83		
Yabula - 14/9/82	Dausoko - 14/3/83		

APPENDIX A6: R.C.A. CHARTER TRIPS 1978-1983

<u>1978</u>		<u>1979</u>		<u>1980</u>	
Belama	- 27/1/78	Belama	- 3/2/79	Belama	- 20/1/80
Belama	- 21/3/78	Belama	- 27/2/79	Belama	- 22/2/80
Belama	- 7/4/78	Belama	- 3/4/79	Belama	- 18/3/80
Belama	- 5/5/78	Belama	- 4/5/79	Belama	- 2/5/80
Moea	- 4/7/78	Belama	- 8/6/79	Belama	- 3/6/80
Belama	- 21/7/78	Belama	- 24/7/79	Belama	- 20/6/80
Belama	- 4/8/78	Belama	- 7/9/79	Belama	- 25/7/80
Coral Princess	- 29/9/78	Belama	- 19/10/79	Aisekula	- 29/9/80
Belama	- 13/10/78	Belama	- 14/11/79	Belama	- 17/10/80
Belama	- 10/11/78	Belama	- 12/12/79	Aisekula	- 5/12/80
Belama	- 8/12/78				
<u>1981</u>		<u>1982</u>		<u>1983</u>	
Belama	- 21/1/81	Belama	- 15/1/82	Dausoko	- 14/1/83
Belama	- 20/2/81	Belama	- 23/2/82	Dausoko	- 11/3/83
Belama	- 3/3/81	Dausoko	- 2/4/82	Tabusoro	- 12/4/83
Belama	- 3/4/81	Na Mataisau	- 14/5/82	Tabusoro	- 10/5/83
Belama	- 1/5/81	Kaunitoni	- 18/5/82	Tabusoro	- 5/7/83
Belama	- 12/6/81	Carmen	- 10/7/82	Tabusoro	- 5/8/83
Belama	- 31/7/81	Tabusoro	- 12/8/82		
Tovata	- 11/9/81	Tabusoro	- 18/9/82		
Belama	- 20/10/81	Tabusoro	- 23/10/82		
Belama	- 20/11/81	Tabusoro	- 23/11/82		
Belama	- 11/12/81	Tabusoro	- 14/12/82		

APPENDIX A7: BOAT PASSENGER CAPACITY

Boat Name	Number of Passenger Berths
Tabusoro	No Passengers
Dausoko	45
Belama	45
Aisekula	98
Kaunitoni	98
Na Mataisau	45
Carmen	8
Tevata	45
Coral Princess	30
Moea	45
Yabula	45
Vasua	45
Golea	45

APPENDIX A8: AIRCRAFT VISITS TO ROTUMA 1981-1983

1981	April	First landing R.N.Z.A.F. Andover, Test Flight.
	May	Twin Otter aircraft, Government Officials to assess airport construction.
	May	First Commercial Flight, on Charter, Fiji Air BAC111 aircraft, brought officials for Centennial Celebrations (seats 70).
	May - July	Air Pacific Bandirrande service (10 seater), Once a week, full both ways (last two flights of service empty).
	August - October	Fiji Air regular service twice a week with a 4 seater aircraft.
	November	Fiji Air 10 seater aircraft, regular service twice a week.
1982	December - January	Fiji Air switch to a daily 4 seater aircraft but due to heavy bookings from both ends an extra special flight each week with another 4 seater aircraft.
	23 January	An Air Pacific BAC111 Charter (70 seats), full both ways.
	February - mid-August	Regular Fiji Air service with 4 seater aircraft.
	mid-August - November	Fiji Air 10 seater aircraft service twice weekly.

1982	December	Fiji Air daily 4 seater aircraft service.
1983	January - July	Fiji Air back to a twice weekly aircraft service by a 10 seater.

APPENDIX A8: FIJI AIR PASSENGER NUMBERS FOR THOSE LEAVING ROTUMA

Month	Year	1981	1982	1983
January		-	78+	106
February		-	40	69
March		-	47	55
April		-	54	75
May		-*	43	76
June		-*	31	-
July		-*	33	-
August		22	70	-
September		36	50	-
October		21	47	-
November		78	53	-
December		98	87	-
TOTAL		255	633	381

* Air Pacific service to Rotuma. It is estimated 80 passengers departed from Rotuma during these months.

+ Another 70 passengers have to be added to this figure due to an Air Pacific Charter Flight.

APPENDIX A9: SAMPLE FRAME: 100 HOUSEHOLDS ON ROTUMA*

Sample Number	Reconnaissance Survey Number	District	Village	Completed Questionnaires
1	7	Itumuta	-	6
2	8	Itumuta	-	14
3	14	Itumuta	-	5
4	16	Itumuta	-	6
5	18	Itumuta	-	3
6	19	Itumuta	-	3
7	21	Itumuta	-	13
8	22	Itumuta	-	4
9	27	Itumuta	-	3
10	28	Itumuta	-	4
11	33	Itumuta	-	9
12	38	Itutiu	Losa	13
13	51	Itutiu	Fapufa	6
14	58	Itutiu	Upu	5
15	63	Itutiu	Motusa	8
16	66	Itutiu	Motusa	7
17	72	Itutiu	Motusa	3
18	73	Itutiu	Haroa	8
19	79	Itutiu	Motusa	7
20	85	Itutiu	Motusa	4
21	90	Itutiu	Motusa	9
22	98	Itutiu	Motusa	9
23	103	Itutiu	Lau-Hapmafau	10
24	110	Itutiu	Lau-Hapmafau	10
25	113	Itutiu	Lau-Hapmafau	2
26	117	Itutiu	Saolei	2
27	122	Itutiu	Saolei	3
28	123	Itutiu	Saolei	14
29	124	Itutiu	Saolei	4
30	126	Itutiu	Saolei	8
31	127	Itutiu	Saolei	9
32	128	Itutiu	Saolei	8
33	131	Itutiu	Saolei	14

Appendix A9 continued

Sample Number	Reconnaissance Survey Number	District	Village	Completed Questionnaires
34	137	Itutiu	Tua'koi	16
35	143	Itutiu	Tua'koi	13
36	144	Itutiu	Tua'koi	8
37	146	Itutiu	Tua'koi	16
38	167	Juju	-	5
39	168	Juju	-	10
40	173	Juju	-	9
41	180	Juju	-	11
42	186	Juju	-	6
43	188	Juju	-	5
44	189	Juju	-	6
45	200	Juju	-	4
46	201	Juju	-	10
47	204	Juju	Sumi	6
48	224	Pepjei	-	10
49	227	Pepjei	-	5
50	237	Pepjei	-	10
51	243	Noa'tau	-	4
52	254	Noa'tau	-	11
53	256	Noa'tau	-	8
54	260	Noa'tau	-	7
55	262	Noa'tau	-	3
56	265	Noa'tau	-	12
57	267	Noa'tau	-	6
58	268	Noa'tau	-	7
59	270	Noa'tau	-	8
60	271	Noa'tau	-	8
61	283	Noa'tau	-	7
62	287	Noa'tau	-	11
63	291	Noa'tau	-	9
64	294	Noa'tau	-	8
65	301	Oinafa	Marama	7
66	308	Oinafa	Paptea	7
67	310	Oinafa	Oinafa	4

Appendix A9 continued

Sample Number	Reconnaissance Survey Number	District	Village	Completed Questionnaires
68	319	Oinafa	Oinafa	18
69	329	Oinafa	Oinafa	8
70	337	Oinafa	Lopta	2
71	342	Oinafa	Lopta	6
72	345	Oinafa	Lopta	7
73	356	Oinafa	Lopta	7
74	358	Oinafa	Lopta	7
75	364	Malhaha	-	4
76	365	Malhaha	-	7
77	370	Malhaha	-	11
78	372	Malhaha	-	9
79	374	Malhaha	-	6
80	375	Malhaha	-	2
81	378	Malhaha	-	3
82	382	Malhaha	-	14
83	384	Malhaha	-	7
84	386	Malhaha	-	2
85	389	Malhaha	-	6
86	394	Malhaha	-	4
87	395	Malhaha	-	7
88	397	Malhaha	-	6
89	399	Malhaha	-	6
90	400	Malhaha	-	6
91	411	Malhaha	-	5
92	419	Itutiu	Tamura	11
93	431	Itutiu	Salvaka	7
94	435	Itutiu	Salvaka	3
95	436	Itutiu	Salvaka	5
96	439	Itutiu	Hapmak	10
97	440	Itutiu	Hapmak	7
98	444	Itutiu	Hapmak	5
99	461	Itutiu	Ahau	6
100	462	Itutiu	Ahau	8
			TOTAL	732

* Due to confidentiality the identification of households by naming the 'Head' has been omitted from this table.

APPENDIX B
SAMPLE SURVEY DATA

Tables B1 - B8: 'Those Who Migrated from Rotuma in the 1978-1983
Survey Period' (Survey classification '2'; Total 118)

Table B1: Age

Interval (Years at time of Journey)	Number
0-2	0
3-7	4
8-12	5
13-17	28
18-22	41
23-27	10
28-32	5
33-37	4
38-42	5
43-47	3
48-52	2
53-57	4
58-62	2
63-67	3
68-72	2
TOTAL	118

Table B2: Sex

Survey Code	Title	Number
1	Male	59
2	Female	59
	TOTAL	118

Table B3: Marital Status

Survey Code	Title	Number
1	Single	94
2	Married	17
3	Widowed	4
4	Other	3
	TOTAL	118

Table B4: Education

Survey Code	Title	Number
1	Tertiary	8
2 and 3	Forms 1 to 7	83
4	Primary	24
5	None	3
	TOTAL	118

Table B5: Occupation

Survey Code	Title	Number
1	Farmer	22
2	Domestic	21
3	School Student	60
4	Too Young	3
5	Retired	0
6	Religion	1
7	RCA employed	6
8	Teacher	3
9	Other	2
	TOTAL	118

Table B6: Religion

Survey Code	Title	Number
1	Methodist	86
2	Catholic	32
3	Other	0
	TOTAL	118

Table B7: Household Status

Survey Code	Title	Number
1	Head	3
2	Wife	4
3	Head's Children	61
4	Parents of Wife or Head	7
5	Other	20
6	Grandchildren	8
7	Brother or Sister of Head or Wife	12
8	Past Head	1
9	Son or Daughter-in-law	2
	TOTAL	118

Table B8: Place of Birth

Survey Code	Title	Number
1	Rotuma	107
2	Fiji	10
3	Rest of World	1
	TOTAL	118

Tables B9 - B18: 'Those Who Have Migrated to Rotuma During the 1978-1983 Survey Period' (Survey Classification '5'; Total = 86)

Table B9: Age

Interval (Years at Time of Journey)	Number
0-4	26
5-14	13
15-24	12
25-34	19
35-44	4
45-54	3
55-64	5
65-74	2
75-84	2
TOTAL	86

Table B10: Sex

Survey Code	Title	Number
1	Male	50
2	Female	36
	TOTAL	86

Table B11: Marital Status

Survey Code	Title	Number
1	Single	58
2	Married	23
3	Widowed	4
4	Other	1
	TOTAL	86

Table B12: Education

Survey Code	Title	Number
1	Tertiary	11
2	Form 5 and above	7
3	Forms 1 to 4	20
4	Primary	18
5	None	30
	TOTAL	86

Table B13: Occupation

Survey Code	Title	Number
1	Farmer	14
2	Domestic	13
3	School Student	9
4	Too Young	30
5	Retired	1
6	Religion	5
7	*RCA employed	2
8	Teacher	5
9	Other	7
	TOTAL	86

* Rotuma Co-operative Association

Table B14: Religion

Survey Code	Title	Number
1	Methodist	44
2	Catholic	35
3	Other	7
	TOTAL	86

Table B15: Household Status

Survey Code	Title	Number
1	Head	11
2	Wife	8
3	Head's Children	23
4	Parents of Wife or Head	3
5	Other	10
6	Grandchildren	23
7	Brother or Sister of Head or Wife	3
8	Past Head	0
9	Son or Daughter-in-law	5
	TOTAL	86

Table B16: Place of Birth

Survey Code	Title	Number
1	Rotuma	43
2	Fiji	43
3	Rest of World	0
	TOTAL	86

Table B17: Migrants to Rotuma and Transport Used

Arrival Year	Number	Boat (A)	Airplane (B)
1978	2	2	-
1979	17	17	-
1980	16	16	-
1981	25	16	9
1982	15	7	8
1983	11	4	7
TOTAL	86	62	24

Table B18: Migrants to Rotuma - Reasons for Coming

Year Reason	1978	1979	1980	1981	1982	1983	Total
A	-	1	2	3	2	4	12
B	-	4	6	10	7	3	30
C	1	7	2	6	2	2	20
D	1	5	6	4	3	2	21
E	-	-	-	1	1	-	2
F	-	-	-	1	-	-	1
TOTAL	2	17	16	25	15	11	86

Classification Codes A: Migrate to live with Grandparents

B: Accompany Guardian (non-individual choice)

C: Job Transfer

D: To farm land (includes male and female, e.g. husband and wife)

E: To attend ceremony or special occasion

F: Other

Tables B19 - B28: 'Those Who Migrated to Rotuma and Then Back to the Main Islands of Fiji During the 1978-1983 Survey Period' (Survey Classification '3'; Total = 29)

Table B19: Age

Interval (Years at Time of First Journey)	Number
0-4	2
5-14	7
15-24	7
25-34	3
35-44	0
45-54	2
55-64	4
65-74	3
75-84	1
TOTAL	29

Table B20: Sex

Survey Code	Title	Number
1	Male	16
2	Female	13
	TOTAL	29

Table B21: Marital Status

Survey Code	Title	Number
1	Single	17
2	Married	6
3	Widowed	4
4	Other	2
	TOTAL	29

Table B22: Education

Survey Code	Title	Number
1	Tertiary	4
2	Form 5 and above	3
3	Forms 1 to 4	4
4	Primary	13
5	None	5
	TOTAL	29

Table B23: Occupation

Survey Code	Title	Number
1	Farmer	1
2	Domestic	10
3	School Student	4
4	Too Young	5
5	Retired	3
6	Religion	0
7	RCA employed	0
8	Teacher	1
9	Other	5
	TOTAL	29

Table B24: Religion

Survey Code	Title	Number
1	Methodist	17
2	Catholic	9
3	Other	3
	TOTAL	29

Table B25: Household Status

Survey Code*	Title	Number
2	Wife	1
3	Head's Children	5
4	Parents of Wife or Head	1
5	Other	17
7	Brother or Sister of Head or Wife	5
	TOTAL	29

* No individuals in categories 1,6,8 and 9.

Table B26: Place of Birth

Survey Code	Title	Number
1	Rotuma	15
2	Fiji	13
3	Rest of World	1
	TOTAL	29

Table B27: Transient Mobility and Transport Used

Arrival Year	Total Number	(A) Boat	(B) Airplane
1978	5	5	-
1979	4	4	-
1980	4	4	-
1981	13	12	1
1982	3	1	2
1983	0	0	0
TOTAL	29	26	3

Table B28: Transients to Rotuma - Reasons for Coming

Year Reason	1978	1979	1980	1981	1982	Total
A	-	-	-	1	-	1
B	1	2	2	-	-	5
C	-	-	1	1	-	2
D	-	1	-	1	-	2
E	2	-	1	1	3	7
F	1	1	-	1	-	3
G	1	-	-	8	-	9
TOTAL	5	4	4	13	3	29

Classification Codes A: Help in a household during pregnancy
 B: Migrate to live with Grandparents
 C: Accompany Guardian
 D: Job Transfer
 E: Extended Holiday
 F: To Farm Land
 G: Ceremony Related or Special Occasion

APPENDIX C:
SAMPLE SURVEY DATA

C1: Confidence Interval Calculations

Example A:

Estimating %

$$SE\% = \sqrt{\frac{Pu}{n}}$$

If 100 in sample, 50 were type A, $n = 100$

$$\begin{aligned} SE &= \sqrt{\frac{50 \cdot 50}{100}} \\ &= 5 \end{aligned}$$

Population proportion $Pu = 50 \pm 1.96 (5.00)$ at
95% confidence level

$$= 50 \pm 9.8$$

Confidence Interval = 40.2% - 59.8%
at the 95% confidence
level

Example B:

Estimating %

$$SE\% = \sqrt{\frac{Pu}{n}}$$

if 100 in sample, 10 were type A, $n=100$

$$\begin{aligned} SE &= \sqrt{\frac{10 \cdot 90}{100}} \\ &= 3 \end{aligned}$$

Population proportion $Pu = 10 \pm 1.96 (3.00)$ at
95% confidence level

$$= 10 \pm 5.88$$

Confidence Interval = 4.12% - 15.88%
at the 95% confidence
level

C2: Random Sample Calculations

Explanation: The Kolmogorov-Smirnov One-Sample Test

Function and Rationale: The Kolmogorov-Smirnov one-sample test is a test of goodness of fit. That is, it is concerned with the degree of agreement between the distribution of a set of sample values and some specified theoretical distribution (census figures). It determines whether the scores in the sample can reasonably be thought to have come from a population having the theoretical distribution.

Test for Males: Theoretical Distribution - 1981 Agricultural Census: $F_o(X)$
 Sample Distribution - 1983 Rotuma Sample Survey: $S_N(X)$

Age Group	Census $F_o(X)$			Sample $S_N(X)$			$F_o(X) - S_N(X)$
	Frequency	Cumulative Frequency	Cumulative Frequency Percent	Frequency	Cumulative Frequency	Cumulative Frequency Percent	
0-2	70	70	5.41	26	26	9.19	-3.78
3-5	89	159	12.30	25	51	18.02	-5.72
6-10	195	354	27.38	26	77	27.21	0.17
11-16	243	597	46.17	52	129	45.58	0.59
17-20	83	680	52.59	17	146	51.59	1.00
21-30	134	814	62.95	45	191	67.49	-4.54
31-40	134	948	73.32	16	207	73.14	0.18
41-50	134	1082	83.68	23	230	81.27	2.41
51-60	94	1176	90.95	30	260	91.87	-0.92
60+	117	1293	100	23	283	100	-

Maximum Deviation = 5.72%

Critical Value of Deviation in the K-S One Sample Test

Level of significance at the 95% confidence level: $\frac{1.36}{\sqrt{N}}$

$N = 283, \frac{1.36}{\sqrt{283}} = 0.0808 = 8.08\%$

Result: 5.72% is less than 8.08%

Conclusion: A random sample at the 95% confidence level.

Test for Females: Theoretical Distribution - 1981 Agricultural Census: Fo(X)
 Sample Distribution - 1983 Rotuma Sample Survey: SN(X)

Age Group	Census Fo(X)			Sample SN(X)			Fo(X)-SN(X)
	Frequency	Cumulative Frequency	Cumulative Frequency Percent	Frequency	Cumulative Frequency	Cumulative Frequency Percent	
0-2	83	83	6.71	20	20	7.09	-0.38
3-5	90	173	13.98	26	46	16.31	-2.33
6-10	190	363	29.34	29	75	26.59	2.75
11-16	212	575	46.48	40	115	40.78	5.70
17-20	69	644	52.06	15	130	46.10	5.96
21-30	116	760	61.44	33	163	57.80	3.64
31-40	132	892	72.11	24	187	66.31	5.80
41-50	136	1028	83.10	33	220	78.01	5.09
51-60	101	1129	91.27	28	248	87.94	3.33
60+	108	1237	100	34	282	100	-

Maximum Deviation = 5.96%

Critical Value of Deviation in the K-S One Sample Test

Level of significance at the 95% confidence level = $\frac{1.36}{\sqrt{N}}$

$N = 282, \frac{1.36}{\sqrt{282}} = 0.0809 = 8.09\%$

Result: 5.96% is less than 8.09%

Conclusion: A random sample at the 95% confidence level

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