

"PEOPLE ON THE MOVE: THE DEMOGRAPHIC
AND SOCIO-ECONOMIC CHARACTERISTICS
OF THE LOW-INCOME MIGRANTS AND THEIR
HOUSING NEED IN NAIROBI".

BY

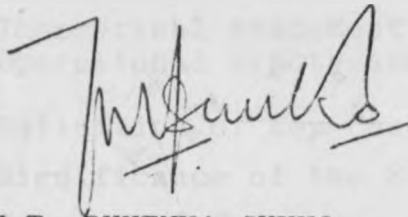
JOHN MATTHEWS TUSUBIRA BUKENYA-JUUKO

THIS THESIS WAS SUBMITTED IN PART
FULFILMENT FOR THE DEGREE OF MASTER
OF ARTS IN THE UNIVERSITY OF NAIROBI

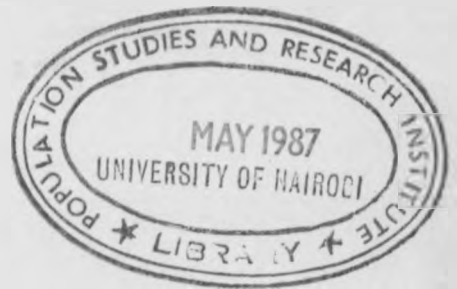
1982

DECLARATION

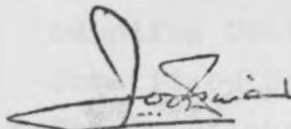
This thesis is my original work and has not been presented for a degree in any other University.



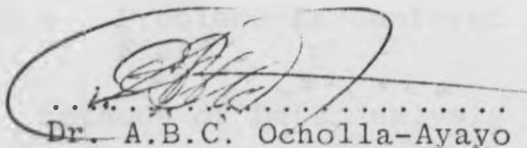
J.M.T. BUKENYA-JUUKO
(Candidate)



This thesis has been submitted for examination with our approval as the University Supervisors.



.....
Dr. John O. Oucho



.....
Dr. A.B.C. Ocholla-Ayayo

TABLE OF CONTENTS



ABSTRACT	i - iii
LIST OF FIGURES	iv
LIST OF TABLES	v - vii
ACKNOWLEDGEMENTS	viii
CHAPTER 1 <u>GENERAL INTRODUCTION</u>	
1.1 Overview	
1.2 The Study Area	
1.3 Nature and Scope of the Study	
1.3.1. Statement of the Problem	
1.3.2 Objectives of the Study	
1.3.3 Theoretical Statement and Operational Hypotheses	
1.3.4 Definition of Key Concepts	
1.4 Significance of the Study	
1.5 Summary of Chapters	
CHAPTER 2. <u>LITERATURE REVIEW</u>	22-39
2.1 Rural-urban Migration and Natural Increase	
2.2 Low-income Housing for Low-income Groups	
2.3 Living Environment and Housing Conditions	
CHAPTER 3. <u>METHODOLOGY</u>	40-50
3.1 Low-income Residential Estates	
3.2 Techniques and Tools of Field Survey	
3.2.1 Sampling Design	
3.2.2 Stratified Sampling	
3.2.3 The Questionnaire	
3.2.4 The Interview Schedule	
3.2.5 Other Sources of Data	
3.2.6 Problems Encountered in the Field	
3.3 Methods of Data Analysis	

CHAPTER 4. DEMOGRAPHIC AND BACKGROUND
CHARACTERISTICS OF THE ENUMERATED 51-77
POPULATION

4.1. The Demographic Characteristics

4.1.1 Age-Sex Distribution of the
Enumerated Population

4.1.2 Marital Status of the
Respondents

4.1.3 Ethnic Composition of the
Respondents

4.1.4 Crude Birth and Death Rates
and Natural Increase

4.1.5 Migration History and Migration
Selectivity

4.1.6 Family Structure of the
Enumerated Population

4.2 The Socio-economic Characteristics

4.2.1 Occupancy Characteristics

4.2.2 Amenities of the Dwelling Unit

4.2.3 Income

4.2.4 Education

4.2.5 Religion

4.2.6 Maintenance of Contact with
Permanent Domicile

4.2.7 Potential Return Migration

CHAPTER 5. RESULTS OF THE ANALYSIS:
RELATIONSHIP BETWEEN THE 78-92
HOUSING NEED AND DEMOGRAPHIC
AND SOCIO-ECONOMIC VARIABLES

CHAPTER 6. SUMMARY, CONCLUSIONS AND
RECOMMENDATIONS 93-102

6.1 Summary of the Main Findings

6.2 General Conclusions

6.3 Policy Recommendations

6.4 Opportunities for Further
Research

APPENDICES

103-116

- A. Computer Summary Tables
- B. Figures 1 and 3.1
- C. Interview Schedule

BIBLIOGRAPHY

118-121



ABSTRACT

The primary goal of this study was to link the demographic and socio-economic characteristics of the low-income migrants to their housing need in Nairobi. In order to do this, the study had to identify these characteristics. Furthermore, the study had to identify those characteristics most responsible for the deteriorating housing conditions of the low-income people. In this exercise, household sample survey was conducted in the study area and information was collected from the heads of households about themselves and members of their households by means of a questionnaire.

In this study it was postulated that low-income migrants with similar demographic and socio-economic characteristics have common housing need. The housing need was viewed as an ambivalent phenomenon divided into an ^{occupancy} variable quantified by the "occupancy ^{density}" (number of persons per room) and a demand variable quantified by "proportion of income spent on rent". Specific hypotheses relating each of the explanatory variables with each of the criterion variables were developed. A basic model was used to test these relationships. Simple correlation and multiple correlation and regression analysis were employed. To test these hypotheses correlation and regression coefficients were examined.

The results of the analysis generally support the

hypotheses set in this study. In particular, mean duration of continuous stay in Nairobi and percent of houses with one room were both positively and significantly related to the occupancy ^{density} rates and negatively and significantly related to the proportion of income spent on rent in the hypothesized directions. Low income migrants who have lived in Nairobi for a long time tend to have more overcrowded houses and spend smaller proportions of their income on rent than do new migrants.

Education was found to have an inverse effect on occupancy ^{density}, meaning that more educated heads of households tend to have fewer persons per room in their houses. This showed that education helps to expose to the people the dangers of overcrowding and congestion and encourages them to reduce it as much as possible. The income variable had a positive effect on the occupancy ^{density}.

The natural increase variable (balance of births and deaths) was found to be positively and significantly related to the occupancy ^{density} and also to the proportion of income spent on rent. The age variable seemed important only when education and technical training were considered, both of which played a determining part in the income ladder of the low-income people. Older heads of households generally paid higher proportions of their incomes in rent than younger heads of households.

The study has also revealed that the housing need (problem) is not simply the lack of houses which can

be solved by simply building more. Both demographic and socio-economic characteristics of the people concerned must be evaluated and related to the problem. The study has further showed that people live in slum and substandard conditions because they can not afford the cost of housing elsewhere. Increased rural-urban migration, lack of education and skill training, high natural increase and unplanned and frequent births, increasing rents for a few affordable houses, and some unconsidered factors are some of the causes of the worsening housing and environmental conditions of the majority of the population of Nairobi.

The main recommendation that arises from this study is that of decentralisation of economic activity from urban to rural areas. It is specifically recommended that building industries in the rural areas will create jobs there and help to reduce the rural-to-urban influx. On the home front, the abandonment of slum clearance must be accompanied by the rehabilitation of these slums and squatter settlements and the communities which occupy them. This action would form a more appropriate framework for urban programmes aimed at increasing and improving the existing housing stock.

LIST OF FIGURES	PAGE
4.1.5a Age Distribution of Respondents	63
4.1.5b Age-Sex Distribution of Enumerated Population	64

LIST OF TABLES	PAGE
1. Population of Nairobi by Tribe or National Group and Sex (Leading Groups only), 1979.	9
2. Population by Sex, Province of Birth and Province of Enumeration, 1979	10
3.1 Low-Income Residential Estates	41
3.2. Population by Enumeration Area and Sample Size	45
3.3. Sample Size and Response Rates by Enumeration Area	49
4.1.1a Age-Sex Distribution of the Respondents	53
4.1.1b Age-Sex Distribution of all Persons in Enumerated Households in Five-Year Age Groups	54
4.1.2. Marital Status of Respondents	56
4.1.3a Ethnic Composition of Respondents	57

4.1.3b	Distribution of Respondents by Province of Birth	58
4.1.4.	Crude Birth Rate, Crude Death Rate and Natural Increase by Enumeration Area	59
4.1.5.	Migration: Duration of Stay in Nairobi by the Respondents	61
4.2.1.	Occupancy Characteristics Among Residents in Enumerated Households by Enumeration Area	67
4.2.2.	Amenities of Present Dwelling Among Low-Income Residents in Nairobi by Enumeration Area (Percent Distribution)	70
4.2.3.	Total Household Income	71
4.2.4.	Respondents by Number of Years of Education	73
4.2.5.	Religious Affiliation of Respondents	74
4.2.7.	Distribution of Respondents According to their Migration Plans	76

5.1.	Zero-order Coefficients Between X1 and the Independent Variables	81
5.2.	Multiple Correlation Analysis of X1	81
5.3.	Partial Correlation and Standardized Partial Regression Coefficients of the Variables Expected to Affect Occupancy density (X1)	82
5.4.	Zero-order Coefficients Between X3 and the Determinant Variables	86
5.5.	Multiple Correlation Analysis of X3	87
5.6.	Partial Correlation Coefficients of Variables Expected to Affect Proportion of Income Spent on Rent (X3)	88

ACKNOWLEDGEMENTS

I am greatly indebted to several people who have helped me in various ways during my course. To mention them all here would be an impossible task. My gratitude to them all. My special thanks go to Dr. J.O. Oucho and Dr. A.B.C. Ocholla-Ayayo who have patiently supervised me and have given me invaluable criticism, advice and encouragement to continue doing my work.

My gratitude also goes to Dr. F.J. Bennett of the UNICEF who followed up constantly on what I was doing.

My special thanks go to my colleague Mr. B.J. Obonyo who constantly encouraged me while I was doing this work. I cannot forget the invaluable secretarial work done for me by Miss Regina Makungu and Mrs. Mary A. Adamba of the PSRI of the University of Nairobi.

Last but ^{by} no means least I thank my loving wife, Susan, and children, Joanita, Julian and Adrian who have so often provided the encouragement which has lifted my flagging spirits.

If there are any errors or shortcomings in this thesis I am wholly responsible for them.

CHAPTER I

1. GENERAL INTRODUCTION

1.1. Overview

The provision of shelter (housing) for low and low-income people is a major pre-occupation of national governments in all major urban centres throughout the world. The momentum of the problem is greater in the urban centres of the developing nations of Asia, Latin America and Africa where the pressure from the movement of people from rural to urban situations is aggravated by the lack of capital to solve the ever increasing housing problems. The problem especially in Nairobi has been surveyed, analysed, discussed and pontificated upon almost 'ad nauseam'. The subject is highly emotive and, as a result, many proposals propounded tend to rely upon emotional rather than factual bases. Economic variables have often been used to explain this problem. However, according to the studies already carried out in Kenya, no attempt has been made to examine the relationship between the demographic and socio-economic characteristics of the low-income migrants and their housing need. The goal of this study is to link these characteristics to the housing need of the low-income migrants in Nairobi.

The purpose of this chapter is three-fold. First, it will serve as the general introduction to the basic aspects of the study. Second, and more specifically, we discuss the study area in which we describe its evolution and main characteristics. Third, we discuss the nature and scope of the study. Here, the statement of the problem, objectives, research hypotheses and significance of the study are discussed. It was desirable that the definition of important concepts to be used in the study be included at the end of this chapter. This was to help the reader as these concepts are repeatedly referred to in the later chapters of the study.

1.2. The Study Area.

The low-income zone in Nairobi: Evolution and main characteristics.

The low-income zone in Nairobi traditionally formed one adjoining area. Except for the emergence recently of small pockets of squatter settlements forming a ring round the city, this area stretches immediately to the east of the Central Business District and industrial area and continues all the way

to the urban fringe. It includes the old city council housing area close to the Central Business District, the belt of spontaneous settlements in the Mathare Valley, as well as the urban fringe (Fig.1) Appendix 1. Within this area lives upward of one-third of the entire population of the city.

The zone came into existence basically as a result of the policies of residential segregation that were in force during the colonial period. The area has over the years developed a number of distinctive characteristics many of which reflect the successive political and institutional arrangements under which growth was accommodated.

During much of the colonial period, a balance between housing, employment and in-migration was imposed on the area. Working under the premise that Africans who sought employment had come to the city for a temporary period, the colonial policy permitted only actual labour force to reside in town; all other persons, under the provisions of the "Pass Laws", were required to remain in the rural areas and faced prosecution if found in town. This period created a

unique situation within the low-income zone. First of all, the exclusion of dependents meant that the African urban population remained small and was predominantly of male adults. Because they were considered transient, no provisions were made to encourage them to own property within the city, nor could they participate in the urban affairs in general. The task of housing migrants therefore fell on those who employed them, together with the Nairobi City Council. Housing provided was quite simple. It consisted of blocks of dormitories within which individuals were allocated bed-space accommodation. Sometimes two renters shared a room, although groupings of more residents were not uncommon. Utilities - kitchen, toilet, and shower - were shared. Rents were low, as indeed were the wages of the occupants. These units were unpopular because, among other things, the urban low-income worker was not to be joined by members of his family.

With Kenya's attainment of independence in 1963 came the radical changes in the urban policy that changed the character of the low-income zone. For one, the abolition of the in-migration restrictions

encouraged the Africans to become permanent urbanites and not just transient workers. To this end, the urban authorities were committed to erecting self-contained units that would enable workers to bring their families to town. This measure had problems of its own. Whereas the minimum acceptable standard during the colonial days was bed-space accommodation in a unit that was built with permanent materials, under the new order the legal minimum became a two-room unit that was built in permanent materials together with kitchen, toilet and shower. The new city council implemented this directive by building partitions within the colonial dormitories and grouping more rooms into single units. This measure created more socially acceptable housing within the low-income zone, but it was also instrumental in decreasing the existing housing stock.

Now that the Africans were becoming permanent citizenry, urban population growth took a drastic turn. Most of the growth was experienced among the African population, which registered a net increase of 195,000 between 1962 and 1969 and increased their share of the population from 60 percent in 1962 to 83

percent in 1969 Silberman (1971). The traditional area of African housing in eastern Nairobi quickly filled up as residential densities rose from 50 persons per hectare in 1962 to 200-300 persons per hectare in 1969 Ominde (1971). Because the private sector had channeled their funds into higher income housing and the City Council was absorbed in remodeling colonial dormitories, a serious shortage of rental accommodations began to be felt. Migrants' initial, and perhaps more natural, adjustment to this shortage was to erect shelters in vacant areas within the central city and close to the area of African housing. The City Council, which owned the land, carried out regular surveillance in its estates and conducted periodic demolitions of the squatter settlements. In search of the more secure area, the squatters soon discovered a relatively remote area in the valley of the Mathare River whose population quickly jumped from less than 5,000 in 1965 to 90,000 in 1970 and to over 150,000 in 1979 Bloomberg and Abrams (1965) and Buttersby (1970).

The Mathare community enjoys considerable freedom from the urban authorities. Most spontaneous

and illegal development goes on without fear that it will fall victim of the city council bulldozer (Muwonge, 1980). Mathare Valley is, as a result, able to adjust to a sudden rise in demand for housing by simply building more, a situation which is out of question in other areas. Informal sector activities are also free to spring up whenever there is a demand for their services. For a new migrant who has yet to obtain his first job, residing in Mathare is considered ideal since cheap accommodation can be obtained together with casual employment.

1.3. NATURE AND SCOPE OF THE STUDY.

1.3.1. Statement of the problem.

In Nairobi, like in many other emerging cities, there is an increasing housing problem. Following the attainment of independence, there has been an influx of people into the city, a phenomenon that has exacerbated the housing problem. Chronic shortage of housing is a basic living problem in urban areas. A large number of people are forced to live at high densities raising the problem of congestion and pollution. The problem is compounded by high standards of construction required in the urban areas. The

result of such pressure is increasing development of slum areas and squatter settlements.

As a national capital, Nairobi is characterized by a district variety of national or ethnic groups. At the time of the 1979 census, the Kikuyu with 33.41 percent of the total population of the city were most numerous. The next largest group were the Luo with 18.16 percent followed by the Luhya with 16.22 percent and the Kamba group with 12.46 percent. These four ethnic groups contributed 80.25 percent of the total population of Nairobi and represented massive rural-urban migration from the main population regions of the country in Central, Nyanza, Western and Eastern Provinces (see Table 1).

Tabulations of population by province of birth and province of enumeration shows that in 1979 25.59 percent of the total population of Nairobi were born in Nairobi (Table 2). This indicates that the vast majority of persons enumerated at the time of the census were migrants. These migrants originated from the major feeder provinces and district sources of the ethnic groups (Table 1). Provincial data indicate

that altogether, over 20 percent of those persons enumerated in Nairobi were born in Central Province, 15 percent in Nyanza, 13.7 percent in Western and 13 percent in Eastern Province.

TABLE 1. POPULATION OF NAIROBI BY TRIBE OR NATIONAL GROUP AND SEX (Leading groups only) 1979.

Tribe	Male	Percent	Female	Percent	Total	Percent
Kikuyu	153098	32.12	122595	35.20	276593	33.41
Luo	86345	18.01	63985	18.37	150334	18.16
Luhya	79399	16.56	54838	15.74	134237	16.22
Kamba	66939	13.96	36248	10.41	103185	12.46
Total	386681	80.65	277666	79.72	664347	80.25
NATIONAL TOTAL	479448	99.89	348327	99.89	827775	99.99

Source: Central Bureau of Statistics,
Kenya Population Census, 1979.

TABLE 2. POPULATION BY SEX, PROVINCE OF BIRTH
AND PROVINCE OF ENUMERATION, 1979.

Province of birth	Province of enumeration (Nairobi)					
	Male	Percent	Female	Percent	Total	Percent
Nairobi	106607	22.23	105266	30.22	211873	25.59
Central	99361	20.72	69010	19.81	168371	20.34
Coast	10157	2.12	7221	2.07	17378	2.09
Eastern	72189	15.06	36182	10.39	108371	13.09
N. Eastern	2112	0.44	1228	0.35	3340	0.40
Nyanza	74402	15.52	49251	14.14	123653	14.94
Rift Valley	18510	3.86	11470	3.29	29980	3.62
Western	69183	14.43	44224	12.69	113407	13.70
Kenya (so stated)	644	0.13	566	0.16	1210	0.15
Tanzania	3495	0.72	3008	0.86	6503	0.79
Uganda	4238	0.88	4915	1.41	9153	1.10
Elsewhere	18528	3.86	16020	4.60	34548	4.17
Total	479448	99.97	348327	99.99	827775	99.99

Source: Central Bureau of Statistics,
Kenya Population Census, 1979.

As a primate city in the country, Nairobi continues to absorb a substantial amount of internal migrants. The largest rural-urban migration streams with several tributaries terminate here. Nairobi has much to attract foreign investors and is the hub of the rapidly expanding East African transport, banking and communications systems. And because Nairobi has the most affluent population of any city in East Africa, it offers the best market for private sector products and services. In addition to being the commercial, manufacturing, communications and transportation centre of the country, it is the administrative and political core area, housing most of the offices of the Central Government, which is the largest single employer in Kenya. Nairobi also remains the photographic safari capital of East Africa, which makes tourism its most valuable industry.

When viewed within the wider context of East and Central Africa, Nairobi stands out in several important respects. The relative political stability of Kenya has resulted in considerable industrial and commercial growth both of which have attracted sizeable numbers of migrants from the neighbouring

countries to Nairobi. Owing to its pleasant climate, the general availability of modern amenities and its relatively advanced and progressive municipal government, Nairobi, in recent years, has attracted regional offices of the United Nations and other international agencies and has become a major conference and convention centre in sub-Saharan Africa.

All these processes and programmes attract migrants in search for employment and better living conditions that they hope to get in the city. Three major problems are created by this additional population. First, the majority of the new population lack jobs and therefore dependable income. Second, lack of income results in a number of people depending upon others for food and shelter thereby reducing the host's capital resources and overcrowding the already substandard accommodation. Third, the annual population increase of 8-10 percent per annum creates additional burdens on the already overstretched resources of the local authorities.

Originally low-income housing was being provided by the employers. More recently the City Council along with other housing agencies and private individual developers share in the provision of rental housing. Along with these, some institutions and companies like the Kenya Railways, East African Breweries and so on provide their employees with houses. The type of housing constructed prior to independence and now owned by the city council was more appropriate to the financial abilities of the low-income groups. These houses are the ones found in the council's old estates of Kaloleni, Mbotela, Kamukunji, Shauri Moyo, Bahati and the like. The majority of post-independence housing construction can only be afforded by middle and upper income groups. These include estates like Umoja, Jamhuri, Harambee and so on. In several cases the city council sets out to build houses for the low-income groups but on completion and because of the demand, these houses end up accommodating higher income groups than they were originally intended for. Another complicating factor is the rate of growth of the city's population which has outstripped the rate of house construction.

The characteristics see 1.3.4(c) below will be the variables to be measured. The problem to be examined in this study is to establish the extent to which these characteristics, singularly or collectively, influence the choice and capacity of the low-income migrant to acquire decent shelter.

1.3.2. Objectives of the study

This study will try to:-

- a) identify the demographic and socioeconomic characteristics of the low-income migrants.
- b) identify the demographic and socioeconomic characteristics most responsible for the ever increasingly deteriorating housing conditions of the low-income migrants in the city.
- c) show the financial stipulations demanded for houses exclude low-income groups.
- d) analyse the housing problem in the context of the individual, family and household pressures, underlying the insatiable nature of housing.

1.3.3. Theoretical statement and Operational hypotheses

In this study it is postulated that low-income migrants with similar demographic and socioeconomic characteristics have common housing need. It is further hypothesized that for:-

DENSITY (X1)1. OCCUPANCY RATE (X1)

- (a) As rural-urban migration increases, the occupancy rate in the low-income households increases.
- (b) Percent of houses with one room is positively related to the occupancy rate.
- (c) The number of years of education of the head of the household is negatively related to the occupancy rate.
- (d) Households paying higher proportions of their incomes in rent tend to have higher occupancy rates than those paying lower proportions of their incomes in rent.

2. PROPORTION OF INCOME SPENT ON RENT (X3)

It is further hypothesized that:-

- (a) Migrants' duration of stay is negatively related to the proportion of income spent on rent.
- (b) Percent of houses with one room is negatively related to the proportion of income spent on rent.
- (c) The rate of natural increase is positively related to the proportion of income spent on rent.
- (d) The age of the head of the household is positively related to the proportion of income spent on rent.

1.3.4 Definition of important concepts

The following are definitions of important terms that will be used in this study. Where necessary, it has been specifically stated as to how the concepts will be used in this study.

- (a) Migration. This refers to the spatial, physical or geographical movement of persons which involves a sustained or permanent sojourn in the place of destination. Emphasis here will be placed on rural-urban migration.
- (b) A Migrant. This is a person who undertakes the above defined move. His place of residence in Nairobi is different from his residence in the area of origin.
- (c) Demographic characteristics will include: age-sex distribution, marital status, crude birth and death rates and natural increase, migration history and selectivity, family structure and household composition, and ethnic composition.

Socio-economic characteristics. These will include: ^{density} occupancy rates, amenities of the dwelling unit, income, education, religion, maintenance of contact with permanent domicile and potential return migration.

- (d) A low-income worker is one earning less than Kshs.1290 per month (Kenya, 1980).
- (e) Household unit: The United Nations Multi-lingual Dictionary (1958) defines a household unit as socio-economic unit made up of individuals who live together. This definition implies that more than one family can make up a household unit particularly so in areas where kinship ties still hold strong.
- (f) Head of household: is defined as a person who is acknowledged as such by the other members of the household unit. For the purposes of this study, the head of the household will be designated as that person who controls the maintenance of the unit. In cases where more than one family live in the same household unit, the head will be designated as the principal owner of the dwelling unit.

- (g) Sample household survey: This is a data collection mechanism, in which information is collected from a sampling of households in an area through interviews and/or questionnaires.
- (h) The housing need: This concept embraces the total requirement for shelter, without considerations of whether or not families can pay for it. Elements of such need may be expressed as minimum quality of structure required, or a maximum rate of occupancy (fewer than 3 persons per room, for example), or an upper limit on the proportion of income spent on housing. Elements to be used in this study will be the rate of occupancy and the proportion of income spent on rent.
- * (i) Effective demand for housing: This is derived from each household's willingness to pay for housing. The level of household income, its distribution and the prices of the available housing and other goods and services are important influences on decisions about how much to

spend on housing. So are demographic patterns and the particular constitution of the household which determine the demand over time. Each family must assign a priority to housing, the amount it is willing to pay, in relation to other items in the household budget.

- (j) Marriage: A man and woman/women living together as man and wife/wives whether or not they have been through any civil or religious ceremonies will be regarded as married. Other concepts will be defined whenever they occur in the thesis.

1.4. Significance of the study:

As has been mentioned earlier, the provision of shelter for low-income people is the major pre-occupation of civic authorities in all major urban centres throughout the world. Nairobi is therefore no exception. Despite vigorous activity in the housing development at the periphery of the city, the financial stipulations demanded for houses still exclude very low-income people. This study will therefore endeavour to throw light on the demographic and social reality and economic plight of these people.

In examining the relationship between the demographic and socio-economic characteristics and the housing need, this study will give general weights to the various factors determining housing conditions

and try to find a combination of influences from these factors because the interactions among these components are as critical to the outcome as their individual weights.

Finally, because the city's population is growing fast and currently acquiring metropolitan characteristics, the majority of the additional population are low-income groups of rural-urban migrants whose housing problem has been identified as already very severe. It is therefore timely to study the problem with a more demographic bias than has been previously done for future planning action.

1.5. Summary of chapters

Chapter One has dealt with the general introduction to the basic aspects of the study. The study area, nature and scope of the study as well as definitions of important concepts have been discussed in the chapter. Chapter Two reviews some of the literature available about the subject of this study.

The Third chapter discusses the methods of data collection and analysis where details of the techniques and tools of the field survey are discussed. Chapter Four gives a detailed description of the demographic and socio-economic characteristics of the enumerated population. Chapter Five deals with the results of the analysis and gives the interpretation of the regression and correlation analysis. Chapter Six gives the summary of the study as well as conclusions and recommendations.

CHAPTER 2

2. LITERATURE REVIEW

The aim of this chapter is to review some of the available related literature. Although a very limited amount of literature is actually available about the subject of this study due to lack of relevant research, literature about similar aspects from elsewhere in the world will be cited.

The crisis in the provision of shelter in most developing countries today is the product of a number of factors. These include, in particular, the rapid rate of population increase throughout the Third World. However, as long as most people remained in the rural areas, the problem of their shelter provision, though critical, was not serious. The crisis situation has arisen as a result of the massive rural-to-urban migration of large numbers of relatively poor people (see Ch. 1 Sect. 1.1., Para 1. p.3 in this study) with low educational attainment and scanty technical skill. An acute housing shortage and overcrowding are some of the major problems arising from this influx of population from the rural to urban areas.

2.1. Rural-urban migration and natural increase

The Third World city has benefited greatly from the medical discoveries that have reduced the death rate of their populations. But, at the same time, the fertility of its inhabitants has remained very high. As Davis (1971, p.8) reports, city-dwelling muslim couples interviewed in Lebanon in 1957 had a fertility that would produce 6.6 children to each wife if she lived through the reproductive period; in Bangalore, India, the average woman aged forty-five and over had borne 5.3 children. This combination of high fertility and low mortality has produced some of the greatest rates of natural increase ever found in cities. Yet rural-urban migration is also proceeding swiftly. The result is a swelling tide of migrants who lack both food and shelter. For example, for Manila, the projected 1977 population of the city based on the rate of natural increase of 3.2 per cent alone (the projected national average rate of population growth of the period 1955-1977) would be 3.7 million (UN, Department of Economic and Social Affairs 1960, pp 14-15). But the lowest United Nations estimate of the actual population for the city in 1977, based on current rate of growth is 5.1 million, indicating the possible addition of almost 1.5 million in-migrants and their

children during the decades of the 1960s and the 1970s. The United Nations 'high estimate' for the 1977 population of Manila is 6.2 million. However, it must be noted that, even though rural-urban migration is significant, it has made very little impression on large populations in the rural areas. Figures for Venezuela show that while the number of people living in urban areas (towns and cities of 5,000 or more inhabitants) increased massively from 0.74 to 4.3 million during the period 1936-1961, the nation's rural population also grew from 2.6 to 3.2 million (Friedmann, 1966, p. 132). In all, probably just over half of the urban growth in underdeveloped countries can be attributed to in-migration (Davis, 1971, p. 4).

In Kenya the problem has been aggravated by the increased tempo of migration following the repeal of the migration laws (Ominde, 1968, p. 192). In Nairobi as early as 1923, Nairobi Municipal Council was compelled to build dormitories for Africans to get rid of the insanitary settlements that had sprung up. The East African Royal Commission Report (1961) noted that the Mombasa riots of 1939 were primarily caused by poor housing. Urban

growth was further augmented by the natural increase which followed the normalisation of the sex ratio after the repeal of the migration restrictions. According to the Nairobi City Council Planning Department and the 1979 Kenya Population Census, the population of the city rose from 120,000 in 1948 to 343,500 in 1962, to 510,000 in 1969 to 828,000 in 1979. The intercensal annual growth rates were 7.5 per cent between 1948 and 1962, 5.8 per cent between 1962 and 1969 and 5.0 per cent between 1969 and 1979. Current projections (Henin, 1979) indicate that the city will hit the million mark by 1984.

The high population growth rate that characterised the period soon after independence has continued. The relative political stability of Kenya within the East African region has resulted into considerable industrial and commercial growth both of which have attracted sizeable numbers of migrants to Nairobi both from Kenya and her neighbours (see 1.3.1. para 4 in this study). Furthermore, there is evidence that growth is not just the result of the centripetal forces of the city. The high growth rate of the rural population, the very slow progress of the programme to create alternative

growth poles in the upcountry areas and the population pressure in many districts are contributing to Nairobi's swelling population.

People come to the city not to fill a known job opening, but simply in the hope that somehow, something will work out in Nairobi (Ibid, Muwonge, 1980, p. 599). Such people are prepared to spend long periods in waiting before a job is acquired. However, economic development programmes have lagged so far behind the demand for work that the bulk of jobs which in-migrants find for themselves are those which exist in a city simply because a city is so full of people, none of whom can be economically self-sufficient. No matter how poor, all must depend on the services and products of others for food, clothing and other daily needs (UN, Department of Economic and Social Affairs, 1967, p.6). It is, therefore, one of the objectives of this study to investigate the extent to which this problem exists among the low-income people in Nairobi.

Other studies also indicate that the first place of entry into city is largely predetermined

by the location of kin or other individuals from the same village community or ethnic group. As Leslie (1963) observed, almost every African who decided to come to Dar-es-Salaam came to a known address where he found a known relation. This relation took over responsibility of housing, feeding and so on until the visitor considered himself able to launch out for himself and take a room of his own. With the acute shortage of accommodation in Nairobi that last move is getting less and less probable with the consequence that the "visitor" normally becomes a permanent member of the household. Caldwell (1969), in his study on rural-to-urban migration in Ghana, found that over half the potential migrants in rural areas expected to stay at first with relatives or fellow villagers. Those who fail to have accommodation and do not wish to return to the rural areas resort to slums and squatter settlements. This study, therefore, aims to find out what happens to these people in these slums and why.

2.3. Low-cost housing for low-income groups.

The mounting pressure of population on Third World cities, both from natural increase and from rural-urban migration, in many instances is now resulting in higher and higher population densities in the low-income settlements, the overcrowding in the existing residential units and further deterioration of already low environmental standards. In Hong Kong growing population pressure between 1949 and 1960 resulted in rooms in the Western district of the city of Victoria being sub-divided first into cubicles and then into bedspaces (Vaughan and Dwyer, 1966; Dwyer, 1968). In extreme cases, the use of bedspaces on a three-shift system by three different sets of inhabitants (usually single factory workers) was recorded. In Singapore the description by Kaye (1960, p.2) reveals substantially the same features. In the old town, or casbah, of Algiers the overall density of population had already reached 3,750 inhabitants per hectare (1500 per acre) by 1934. Nevertheless, in the later 1950s the situation became much worse because of the influx to towns caused by the Algerian War. This explains: "the swarming human masses in some quarters where houses are crowded one against the other, the masses of children one meets in the streets, and

the presence of so many men gossiping in groups on their doorsteps or playing dominoes in such large numbers in the moorish cafes" (UN, 1965, p.1).

In Ibadan, Nigeria, during the present century the traditional and relatively spacious compounds which housed the indigenous population in extended families in the heart of the old city have become broken into a number of separate housing lots. New buildings have been erected on every available space in and around the compounds and today the area is characterised by largely one-storey houses so closely packed together that densities of 1500 to 2500 persons per hectare (600-1000 per acre) have been achieved. This 'growth by fission', as Mabogunje (1968, p. 226) describes it, has obviously resulted not only from social forces making up for the extended family as a social unit in Ibadan but also from the sheer pressure of the people upon the inner areas, both from the natural increase of the indigenous urban population and from in-migration. The situation has now been reached in which many of the rooms in the houses, no more than 2.5 by 3m (8 by 10ft), are inhabited in some areas by an average of 4.6 persons

and the living conditions in the core are indeed appalling (ibid, p. 228).

In Nairobi, the serious deterioration in the housing situation by 1948 is clearly recorded in the following paragraph from the Municipal African Affairs unpublished report: 'It was disheartening to see legitimately employed Africans sleeping under the verandahs of River Road, in noisome and dangerous shacks in the swamp, in buses parked by the roadside and fourteen to a room in Pumwani, two to a bed and the rest on the floor' (Great Britain, 1961, p. 207, para. 26).

Presently part of the low-income housing is provided by the City Council in various housing programmes such as Rental Housing Scheme where one room units are provided. Most of these units are found in estates built before independence and were dormitories for African employees but have now been partitioned to form separate units. Other programmes include the Tenant Purchase Housing Schemes and Site and Service Housing Schemes.

Although these were primarily the result of the government effort to cope with the housing problem, according to the Nairobi Urban Study Group (1972), the letting policy appears, from the present and past experience, to mitigate against the low-income households. The group observed that good quality housing available at subsidised rents, which are aimed at the low-income households are often acquired by people with higher incomes. This situation is aggravated where the low-income tenants sell their accommodation for a quick capital return rather than taking advantage of the cheap rent.

The remaining part of the housing is shared between other housing agencies and private individual developers who put up houses of varied qualities, shanties included. In this category of housing there are two areas that cater for the low-income groups. Mathare Valley is the largest and best known of Nairobi's peripheral squatter settlements, favoured by its suitable location, relatively close to the city centre and the industrial area (UN, Centre for Human Settlements, 1981, pp. 288-294). The Majengo

areas usually are the oldest African neighbourhoods in many towns in East Africa. They were founded in the beginning of this century by Muslim people from the coast, who came inland as traders, soldiers or porters. Even nowadays, in Nairobi especially, the majority of the house owners are Muslim. The Majengo is a low-rent district where tenants form the majority (70 per cent) of the inhabitants. Most of them belong to the lowest income groups.

Majengo has a regular layout with rather large individual plots and an acceptable density for single-story development (up to 500 persons per hectare or 2.5 persons per room). Houses are mostly built of temporary materials (mud-and-wattle walls and roofs of flattened tin). The houses are often poorly maintained. The area is developed on government land and plots are normally given out on the basis of a Temporary Occupancy Licence (T.O.L.). Under the present conditions there is little encouragement to the house owners to improve the housing standards of their property.

The Nairobi Urban Study Group (1972) dealt with the housing needs of the low-income households and identify the physical requirements for more houses of a type, in a quantity and at a speed the rural-to-urban influx of people urgently demands. There was a macro study of the problem of shortage of housing in view of the increasing population. True, there is a shortage of houses and a need to construct more that will be within the reach of the low-income population, but it is also equally important, as this study proposes to do, to go down to the household, familial and individual levels to find out why people still live in worsening conditions. In-migrants to Nairobi with extremely limited resources are often forced to choose between alternative ends in the allocation of their income. For these people, as shown by a survey carried out by the National Christian Council of Kenya (1971), better housing does not rank as a top priority because they feel that other needs were more important. This may seem to suggest that people live in slums not simply because housing elsewhere cannot be found. To be able to save money in order, say, to send a child or relative to school is one

of the many reasons why people continue to live in substandard environment.

Otega (1977) was mainly concerned with the legal relation of housing and the use made of credit facilities in the housing front in urban Kenya. The cost of living in Nairobi is so high that credit facilities have no bearing on the low-income groups. Muwonge (1980) found out that the majority of people in Nairobi City cannot afford a house. He says this is due to the inability of the low-income people to meet the necessary financial obligations involved. As the estimates by the Housing Research and Development Unit of the University of Nairobi in 1977 indicated that the average income of the city was Kshs 280 a month, and some 70 percent of the population earned less than Kshs 500 a month. The official minimum standard of a two-room house with kitchen, toilet and shower cost Kshs 35,000 and required a loan repayment of Kshs 400 per month. This state of affairs puts the issue beyond the low-income groups.

2.4. Living environment and housing conditions

Housing conditions are generally poor in the extreme. The case of Calcutta where more than two-

thirds of the families are reported as living in one room is only slightly more drastic than for many other cities in Asia, Latin America and Africa. Two-thirds of the inhabitants of the 'bustees' have less than 2.7 sq. m. (30 sq. ft) of living space, while more than half of the bustee households have to share water taps with between 10 and 100 other households (Bose, 1967, p. 232). Less than 10 percent of bustee households are lucky enough to share toilet facilities with fewer than ten other households. Something of the same situation exists in Tripoli (Harrison, 1967, p. 420).

There are many parallels elsewhere in the Third World. In Kingston, Jamaica, nine persons occupy huts 5.5 sq. m. (60 sq. ft) in area while families of five or six have been reported occupying dwellings of a similar size in Siloe area of spontaneous settlement of Cali, Colombia (Abrams, 1966, p. 6, 14). One large squatter area in Beirut consists of living units of from one to three rooms with a total of 6 to 10 sq. m. of living space, the average occupancy rate being nine people per unit (UN, Department of Economic and Social Affairs, 1971, p. 89).

Housing construction is typically running at a Quarter or less the estimated minimum requirements (WORLD BANK, 1972). The World Health Organisation (WHO) estimated that in 1972 a quarter of the urban populations were receiving water supply in house or courtyard and only a further quarter were supplied from public standpipes. The situation has not changed much today. The sewage situation is worse with the backlog of requirements rapidly growing. The quality of self-constructed dwellings of the poor groups, especially the lack of public services, makes it necessary to replace them (Mabogunje, Hardoy, Misra, 1978, p. 35). The reproduction of rural-type dwellings in an urban setting also contributes to the precariousness of the situation. A large part of the inhabitants of the main urban centres in Africa lives in these conditions.

For example, in the three main cities of Algeria Algiers, Oran and Annaba (Bone), about 30 percent of the population lives in slums and those inhabiting European-type dwellings (60 percent) are crowded into them at a rate of 3 or 4 persons per room

(UN, Department of Economic and Social Affairs, 1965). In 1955, about 45 percent of the population of Dakar (Senegal) occupied dwellings with a density of 3 or more persons per room. 65 percent of the dwellings lacked electricity and piped water. By 1969 the situation had deteriorated further with the growth of many more uncontrolled settlements which brought to 60 per cent of the city population living in these settlements (WORLD BANK, 1972).

In a survey conducted in one-fifth of the households in Sierra Leone in 1960, it was found that 30 per cent of the families lived in two rooms and 40 per cent in a single room, the average number of persons per room was 3. In the Democratic Republic of the Congo (Zaire), 87 per cent of the 875,000 urban dwelling 'require important repairs or should be replaced for hygienic reasons' (UN, Department of Economic and Social Affairs, 1965).

Mabogunje (1968) gives the case of Lagos (Nigeria) which experiences the stagnation of development of housing, water supply, waste disposal,

transportation, congestion, deteriorated hygienic conditions, disease, hunger and misery. All these will be found in the environment of the low-income settlements. The housing problem creating congestion accompanied by poor provision of latrines, bathroom, poor drainage, inadequate refuse disposal, inhygienic habits, a good deal of ignorance and neglect of infant welfare are factors threatening the good health in the marginal areas where three-quarters of population of Nairobi live. The Nairobi Urban Study Group (1972) in their survey of Mathare Valley found that in the 'urban village', cardboard, felt and corrugated iron are the most usual roofing materials, two metred taps connected to the city mains and one spring provided water for nearly 7,000 people in the village, almost all the rooms facing the main street were used commercially, typically mud-and-wattle construction of the walls are left unplastered, and refuse pits often coincide with pit latrines. In the 'rural village' of Mathare Valley, cultivation takes place in shambas between the houses, open drainage channels run through the village to the river and people wash themselves, their clothes and cooking utensils at convenient points along the river. Whether Tripoli, Lagos or

Nairobi, the African cities have experienced similar pressure in terms of resource allocation.

In this chapter we have reviewed the literature on rural-urban migration and natural increase, low-cost housing and housing conditions in the cities of developing countries. Several case studies have been cited for particular cities. It is clear from this literature that the physical conditions of these cities are similar in many respects. What is lacking in the literature is the link between the physical conditions and the demographic and socio-economic characteristics of the migrant population. It is, therefore, the aim of this study to link these two aspects with special reference to the low-income migrant population of Nairobi (see 1.3.3. of this study). The next chapter will discuss the methods of data collection and analysis. Details of the techniques and tools of the field survey will be discussed.

CHAPTER 3

3. METHODOLOGY

The aim of this chapter is to discuss the methods and techniques used in the data collection and analysis in this study.

3.1. Low-income residential zone

The low-income zone of Nairobi stretches immediately to the east of the Central Business District at Muthurwa and the industrial area and continues all the way to the urban fringe. It includes the old city council housing area, the belt of spontaneous settlements in the Mathare Valley, as well as the urban fringe (see Ch.1, Sec.1.2, Para 1 of this study). The City Council, Town Planning Section, Research Division, classify the following areas as low-income residential estates. The year when each estate was built is of particular importance as it is one of the factors determining whether an estate is low-income estate or not. As mentioned in Chapter One, Section 1.3.1, Para 7 of this study, the type of housing constructed after independence can only

be afforded by middle and upper income groups, hence the importance of the year in which the estate was built. Table 3.1 below shows these estates.

TABLE 3.1. LOW-INCOME RESIDENTIAL ESTATES

NO.	ESTATE	YEAR BUILT
1	Makadara	1938
2	Old Pumwani	1938
3	Shauri Moyo	1938
4	Ziwani	1945
5	Kaloleni	1947
6	Bondeni	1947
7	Bahati	1954
8	Mbotela	1958
9	Ofafa Maringo	1958
10	Landhies Road (Kamukunji)	1958
11	Gorofani	1958
12	Dagoretti	1960
13	Embakasi	1960
14	Kariobangi (single room units)	1960
15	Askari	1972
16	Kariobangi SSS ^a	1964
17	Pumwani Relief	1969
18	*Mathare Slum	1961
19	Mathare SSS ^a	1972
20	Dandora SSS ^a	1976

Source: Nairobi City Council 1978

* Nici Nelson in 'African Urban Studies', No. 3, Winter 1978-79, p. 85.

a SSS refers to Sites and Service Scheme

As has been mentioned in chapter one, the aim of this study is to identify the demographic and socio-economic characteristics of the low-income population and establish the extent to which these characteristics, singularly or collectively, influence the choice and capacity to acquire decent shelter. It was, therefore, necessary to select a sampling technique that would allow a representative sample to be drawn from every cross-section of the studied population. The sample needed to include the low-income group in the authorised Nairobi City Housing Estates, the Sites and Services Schemes and the squatter and free settlements so that the various factors influencing the housing needs of these people could easily be observed and also to cater for the varied demographic characteristics which may be found in these areas.

Because of the limited time and money available for this research, complete coverage was impossible and therefore a representative sample that could give valid estimates of the population characteristics was taken. A sample of 223 households was found

adequate for that purpose. A questionnaire was administered on the heads of these households. These gave the information about themselves and members of their households by answering the questions in the questionnaire.

3.2. Techniques and tools of field survey

3.2.1. Sampling design.

For the purpose of this study, probability sampling was used because it offered the opportunity of detecting possible errors in the data and it allowed the use of rigorous statistical tests which were necessary in testing whether the sample gave valid estimates of the population characteristics. A probability sample requires that each possible sample of n units from a population of N units has an equal chance of being selected, which in turn implies that every member of the population has an equal chance of selection in the sample and that the chance is calculable and not zero.

3.2.2. Stratified sampling

In this exercise, the criterion used for stratification was the City Council's subdivision

of the study area into estates (Table 3.1). Each low-income residential area was taken as a stratum. Mathare slum (18) was an automatic representative of the slum areas. Kariobangi SSS (16), Mathare SSS (19) and Dandora SSS (20) represented the Site-and-Service Schemes from which Dandora SSS was randomly selected to represent them. According to Table 3.1. each of the numbers 1, 2, ..., 15 and 17 was written on a separate piece of paper. This piece of paper was folded and put into a bag. As the population of each estate was known, and 0.1 percent of this population i.e so many heads of households were to be interviewed, a folded piece of paper was picked at a time from the basket, its number was noted and the name, population and 0.1 percent of that population noted. It was desired that a sample of between 200 and 250 household heads be taken. Pieces of paper were picked until the sample size was 223 which the author decided was sufficient. The results of this random selection are shown in Table 3.2 below:-

TABLE 3.2. POPULATION BY ENUMERATION AREA AND SAMPLE SIZE

ENUMERATION NUMBER ^a AND AREA	POPULATION SIZE [*]	SAMPLE SIZE ^b
1. Shauri Moyo/ Kamukunji	18859	18
2. Kaloleni	5124	6
3. Mbotela	16870	16
4. Ofafa/Maringo	10176	16
5. Bahati	10617	10
6. Makadara	11943	11
7. Ziwani/Starehe	8533	9
8. Kariobangi	43256	43
9. Dandora	23591	24
10. Mathare	69690	70
Total	224659	223

a This refers to the number subsequently assumed by the sampled area as it becomes an enumeration area.

b Sample size is .1 percent of the population size.

* Source: Kenya National Population Census, 1979.
Central Bureau of Statistics, Nairobi.

A map of Nairobi showing the stratified areas is shown in Figure 3.1. The regions (areas) are not uniform in population size since this is not a requirement in stratified sampling.

3.2.3. The questionnaire

A questionnaire was administered to the respondents in order to obtain the required information. This questionnaire was based on personal interviews and was pretested in order to find out if the questions asked were clearly understood by the respondents and also to test whether the order in which they were asked needed change. A few changes and corrections were made to improve the clarity and sequential flow of the questions. Linguistic problems in the survey were minimised by the use of two thoroughly pretested versions of the questionnaire in English and Kiswahili. A few remaining defects of the translation were spotted during the early stages of field work and were quickly rectified. 88 percent of the respondents preferred to be interviewed in Kiswahili while the other 12 percent preferred the English version.

3.2.4. The interviewing schedule.

A structured questionnaire which presented every respondent with identical questions arranged in the same order was used. The standard nature of the questions gave no room for the interviewers to modify or change the questions after pretesting and correcting the errors. It also yielded data that was quantifiable which was crucial to this study. The information sought by the questionnaire was to identify the demographic and socio-economic characteristics of the respondents and their household members. These are defined in Chapter One, Section 1.3.4(C)

3.2.5. Other sources of data used

Secondary data for this study came from Nairobi City Council, especially the departments of Housing and Social Services and Housing Development and City Planning, the Nairobi Urban Study Group, Central Bureau of Statistics and Housing Research and Development Unit of the University of Nairobi.

3.2.6. Problems encountered in the field.

Suspicion on the part of the respondents and their neighbours was one of the major problems. During the initial stages of the survey, the interviewers were accompanied by the estates officers where they were available but this was abandoned as the survey entered the period when City Council was evicting tenants for illegal occupation and other things. It was found that the estates officers were a major handicap to the smooth running of the survey because this increased suspicion and in one case the would-be respondent refused to offer the interviewer any audience.

The rather high non-response rate in cases of Kariobangi and Mathare were due to absences 'on safari' of the heads of households and inspite of one or two recalls the majority of non-respondents were continually absent. It is also difficult to obtain data on sensitive subjects in random sample surveys. Many women, especially in Mathare, seeing the interviewers as possible government "spies" or as possible social workers with "help" to give

or even as possible "customers", would lie in answer to such a delicate question as marital status, especially if they were obviously living with men. In all, out of a sample of 223, there were 16 non-respondents or just over 6 percent. The author felt that the response was quite good. Table 3.3 shows the sample size and response rates by enumeration area.

TABLE 3.3. SAMPLE SIZE AND RESPONSE RATES BY ENUMERATION AREA.

Enumeration Area	Sample Size S	Response R	Percent of S
1. Shauri Moyo/ Kamukunji	18	18	100.0
2. Kaloleni.	6	6	100.0
3. Mbotela	16	16	100.0
4. Ofafa/ Maringo	16	14	87.5
5. Bahati	10	10	100.0
6 Makadara.	11	10	90.0
7. Ziwani/ Starehe.	9	8	88.8
8. Kariobangi.	43	38	88.4
9. Dandora	24	22	91.6
10. Mathare	70	65	92.8
Total	223	207	94.0

3.3. Methods of data analysis.

Frequency distributions, maps, graphs, simple, partial and multiple correlation techniques will be used to analyse the data in order to evaluate the hypotheses set. T and F distributions will be employed to test the significance of the coefficients to be examined. Computer programmed packages will be used to facilitate easy and quick computation. Tables and diagrams will be drawn to show the results of this study in Chapter 5. The next chapter gives a detailed discription of the demographic and socio-economic characteristics of the enumerated population.

CHAPTER 4

4. DEMOGRAPHIC AND BACKGROUND CHARACTERISTICS OF THE ENUMERATED POPULATION.

As has been mentioned in the preceding chapter, a Migration-Household sample survey was conducted and a questionnaire was administered on the heads of the sampled households. The questionnaire consisted of collection of detailed information about the heads of the households and a schedule in which all members of the household were listed together with details of their sex, age, relationship to the head, dates of their first arrival in Nairobi if not born in Nairobi, education as well as any births and deaths in the household in the 12 months preceding the survey; detailed information about the dwelling unit as to the number of rooms and beds in the unit, kitchen, lighting and toilet facilities as well as the source(s) of water for the household. The aim of this chapter is to give a detailed description of the demographic and socio-economic characteristics of the enumerated population so that the detailed finding from the analysis presented in the subsequent chapter, can be placed in their proper context.

4.1. The demographic characteristics

4.1.1. Age-sex distribution of the enumerated population.

The subjects interviewed (respondents) comprise male and female heads of households making a total of 207 persons. These were enumerated in the residential areas as shown in Table 3.4 above. The respondents showed the following age-sex distribution in five-year age groups (Table 4.1.1a). Table 4.1.1a shows that 36 percent of the respondents are aged below 30 years, 48 percent are aged below 35 years while 59 percent are aged below 40 years. Over 70 percent are aged below 45 years. This shows a relatively young age structure of the respondents. Less than 16 percent of the respondents are aged over 50 years. In all 71 percent of the respondents are male giving the overall sex ratio of 239. Table 4.1.1b shows the age-sex distribution of all persons enumerated in the households in five-year age groups.

TABLE 4.1.1a AGE-SEX DISTRIBUTION OF THE RESPONDENTS

AGE GROUP	SEX				TOTAL		CUMUL. %	SEX RATIO
	MALE	%	FEMALE	%	NUMBER	%		
15 - 19	0	0	1	0.48	1	0.48	0.48	0
20 - 24	17	8.2	11	5.3	28	13.53	14.01	155
25 - 29	38	18.4	8	3.9	46	22.22	36.23	475
30 - 34	16	7.7	8	3.9	24	11.59	47.82	200
35 - 39	15	7.3	7	3.4	22	10.63	58.45	214
40 - 44	17	8.2	9	4.3	26	12.56	71.01	189
45 - 49	20	9.7	7	3.4	27	13.04	84.05	289
50 - 54	13	6.3	5	2.4	18	8.70	92.75	260
55 - 59	4	1.9	2	1.0	6	2.90	95.65	200
60 - 64	3	1.5	3	1.5	6	2.90	98.55	100
65+	3	1.5	0	0.0	3	1.45	100.00	00
TOTAL	146	70.6	61	29.4	207	100.00		239

TABLE 4.1.1b: AGE-SEX DISTRIBUTION OF ALL PERSONS IN
ENUMERATED HOUSEHOLDS IN FIVE-YEAR
AGE GROUPS.

AGE GROUP	SEX				TOTAL		CUMUL. %	SEX RATIO
	MALE	%	FEMALES	%	NUMBER	%		
0 - 4	66	7.60	50	5.80	116	13.40	13.4	132.0
5 - 9	41	4.70	35	4.00	76	8.80	22.2	117.1
10 - 14	52	6.00	42	4.90	94	10.90	33.1	123.8
15 - 19	50	5.80	35	4.00	85	9.80	42.9	142.9
20 - 24	67	7.80	74	8.60	141	16.30	59.2	90.5
25 - 29	65	7.50	40	4.60	105	12.20	71.4	162.5
30 - 34	33	3.80	36	4.20	69	8.00	79.4	91.7
35 - 39	29	3.40	19	2.20	48	5.60	85.0	152.6
40 - 44	29	3.40	15	1.70	44	5.10	90.1	193.3
45 - 49	30	3.50	12	1.40	42	4.90	95.0	250.0
50 - 54	18	2.10	4	0.50	22	2.50	97.5	450.0
55 - 59	5	0.58	4	0.50	9	1.00	98.5	125.0
60 - 64	5	0.58	3	0.30	8	0.90	99.4	166.7
65+	2	0.24	3	0.30	5	0.60	100.0	66.7
TOTAL	492	57.00	372	43.00	864	100.00		132.3

Table 4.1.1b shows that 43 percent of all persons enumerated are aged below 20 years, 59 percent are aged below 25 years, 71 percent are aged below 30 years, 79 percent below 35 and 85 percent below 40 years. 90 percent and 95 percent are aged below 45 years and 50 years respectively. This confirms the observation in Table 4.1.1a of a relatively young age structure among the population.

In all, 57 percent of the enumerated persons are male and the overall sex ratio is 132.3. The age specific sex ratios range from 66 to as high as 450 in age groups 65+ and 50-54 respectively. The sex ratios of 90.5 and 91.7 are observed in the age groups 20-24 and 30-34 respectively the commonest age-groups in Dandora and Mathare Valley, the two enumeration areas where matrifocal or female-headed households are very common.

The majority of women interviewed came to the city either with a husband and then left him or fled a difficult domestic situation with a husband, father or other relative in the rural areas and came to set up a home and a business alone. They do not wish or intend to marry and use their homes both as their living and business premises. They have numerous dependants including children and other relatives and in some cases "friends"

4.1.2. Marital status of the respondents

The survey showed that most of the heads of households were married (49.3%) and single (32.4%). The rest of the distribution in marital status is shown in Table 4.1.2 below.

TABLE 4.1.2: MARITAL STATUS OF RESPONDENTS

STATUS	NUMBER	PERCENT
Single	67	32.37
Married	102	49.27
Divorced	10	4.83
Seperated	5	2.42
Widowed	23	11.11
Total	207	100.00

4.1.3 Ethnic composition

The ethnic composition of the respondents showed the following distribution:

TABLE 4.1.3.a ETHNIC COMPOSITION OF RESPONDENTS

ETHNIC GROUP	NUMBER	PERCENT
Kamba	24	11.59
Kikuyu	100	48.31
Joluo	34	16.43
Luhya	30	14.49
Kisii	7	3.38
Somali	4	1.93
Other	8	3.86
Total	207	99.99

The majority of the respondents were Kikuyu (48.3%) followed by the Joluo (16.4%), followed by the Luhya (14.5%), followed by the Kamba (11.6%).

There were no Masai respondents. Table 4.1.3b confirms these results by looking at the distribution of respondents by province of birth.

TABLE 4.1.3b DISTRIBUTION OF RESPONDENTS BY PROVINCE OF BIRTH.

PROVINCE	NUMBER	PERCENT
North-Eastern	4	1.93
Eastern	23	11.11
Nairobi	3	1.45
Central	97	46.86
Coast	5	2.42
Rift Valley	3	1.45
Nyanza	38	18.36
Western	32	15.46
Outside Kenya	2	0.96
Total	207	100.00

4.1.4. Crude birth and death rates and Natural increase

TABLE 4.1.4: CRUDE BIRTH RATE, CRUDE DEATH RATE
AND NATURAL INCREASE BY ENUMERATION
AREA.

RATE	ENUMERATION AREA									
	1	2	3	4	5	6	7	8	9	10
CBR*	38.5	41.6	88.0	0.0	16.6	43.5	66.6	35.5	21.74	32.6
CDR*	0	20.8	19.6	51.7	16.0	43.5	33.3	17.7	10.81	16.3
N.I*	38.5	20.8	68.4	-51.7	0.0	0.0	33.3	17.8	10.87	16.3

* All figures are per 1000.

Mean natural increase = 15.43/1000.

Table 4.1.4 shows the crude birth and death rates and natural increase by area of enumeration. The highest CBR (88 per 1000) was recorded in Mbotela (area 3) with CDR (19.6 per 1000) giving a rate of natural increase of 68.4 per 1000. In two of the areas (5 & 6) the number of deaths equalled the number of

births giving the rate of natural increase of zero. In one area there were 3 deaths against no births and this yielded a rate of natural increase of -51.7 per 1000. The average rate to natural increase for the whole population enumerated was 15.43 per 1000.

4.1.5. Migration history and migrant selectivity.

The survey showed that more than 67 percent of the respondents migrated to Nairobi during the period soon after independence up to now. Almost 50 percent have lived in Nairobi for less than 15 years while 31 percent have stayed for less than 10 years. This result is in line with earlier observations of the growth of the African population of Nairobi after the abolition of the in-migration restrictions (ibid, Silberman, 1971). Just over 30 percent of the respondents had migrated more than 20 years before the survey. These were mainly the African domestic employees that were considered transient and had originally lived in the city without their families. Table 4.15 gives the details of the distribution of the respondents by their duration of stay in Nairobi.

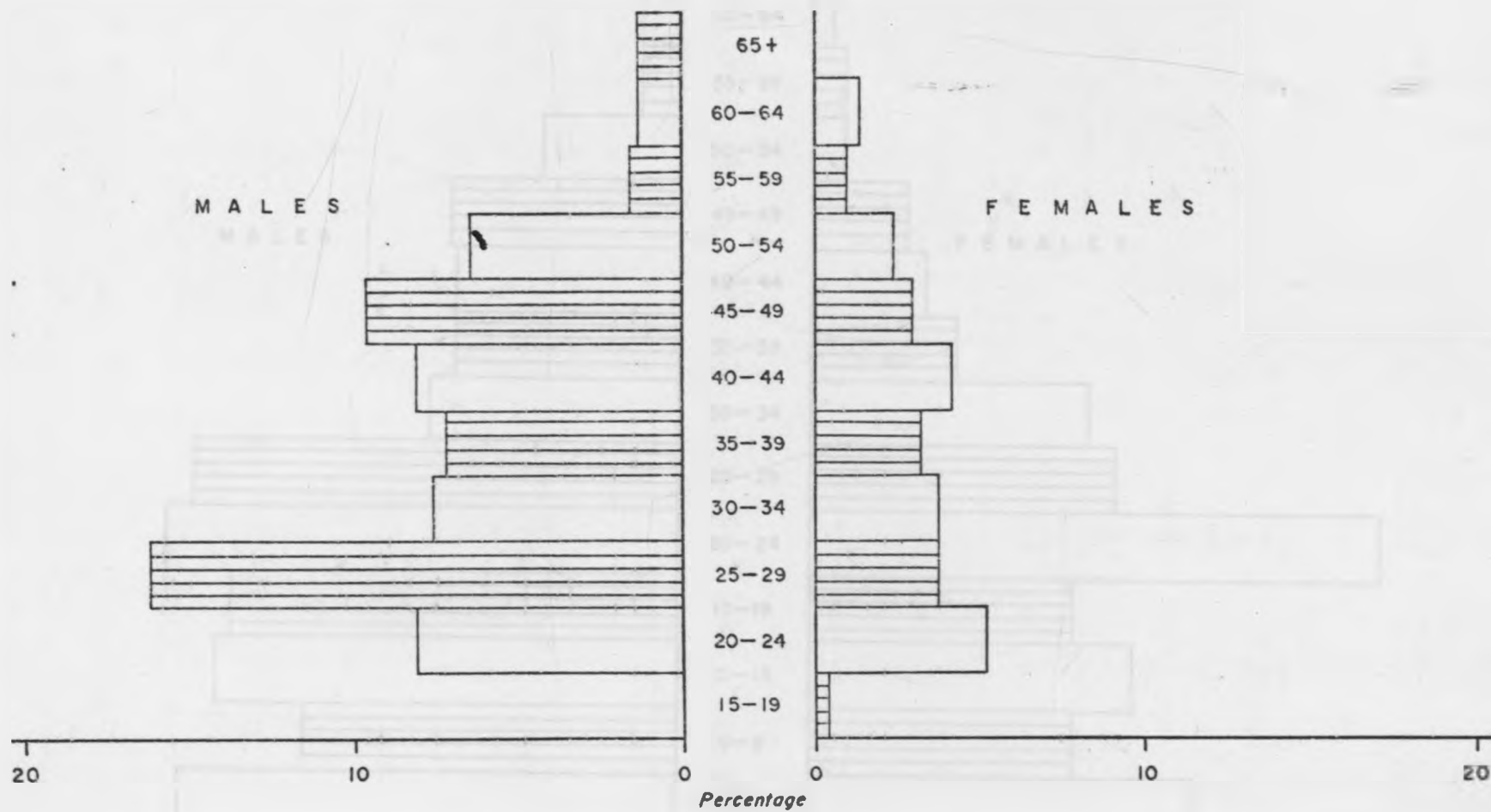
TABLE 4.1.5: MIGRATION: DURATION OF STAY IN NAIROBI BY THE RESPONDENTS.

YEARS LIVED IN NAIROBI	NUMBER OF RESPONDENTS	PERCENT	CUMULATIVE PERCENT
0 - 4	17	8.2	8.2
5 - 9	47	22.7	30.9
10 - 14	39	18.8	49.7
15 - 19	36	17.4	67.1
20 - 24	31	15.0	82.1
25+	37	17.9	100.0
TOTAL	207	100.0	

Migrant selectivity in this study has been considered on the basis of two variables, age and sex. Data show that age and sex selectivity has occurred in the migrants into the low-income areas. Percentage distribution of the respondents by age and sex (Table 4.1.1a) shows that most of the migrants are concentrated within the young adult years of the 20-49 age bracket. This broad age bracket accounted for 84 percent of the age reported respondents. Within it there are five-year age

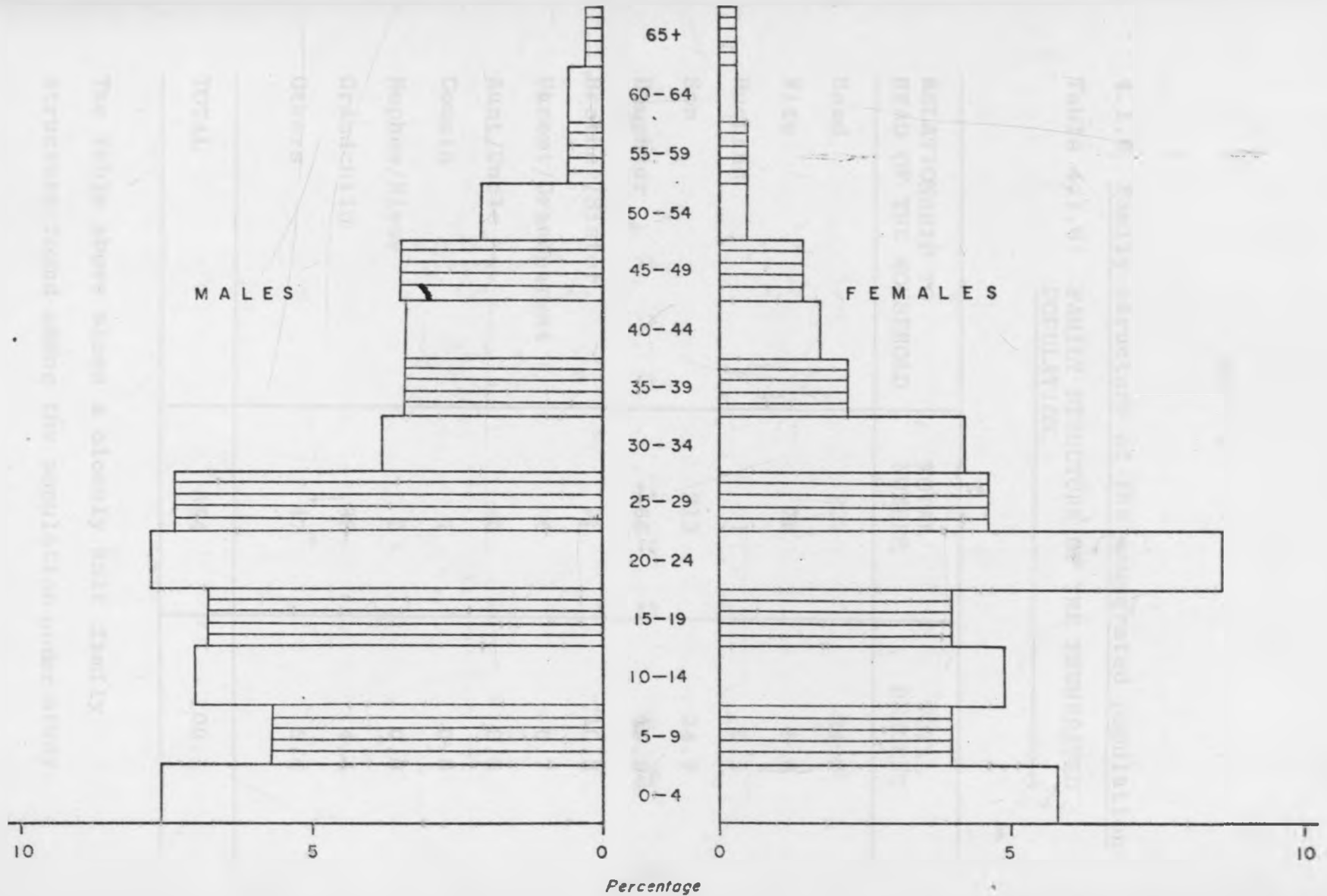
groups of 20-24 and 25-29 which have the greatest impact on the distribution of the respondents. These age groups contributed rates of 13.5 percent and 22.2 percent respectively to the total age reported respondents. Accounting for relatively lower but substantial rates within the 20-49 age bracket is the ten year broad age group of 40-49 years with 25.6 percent of the total age reported population. Taking the sex variable into consideration shows that the respondents were predominantly male. This is best illustrated by the examination of the age specific sex ratios for the respondents presented in Table 4.1.a and further emphasised in Table 4.1.1b for the whole enumerated population. It is therefore noted that the migrant low-income population is concentrated in the young adult years and labour force working ages and is predominantly male. The age-sex pyramids in figures 4.1.5a and 4.1.5b illustrate these findings.

Fig. 4.1.5 AGE-SEX DISTRIBUTION OF RESPONDENTS.



SOURCE : Table 4.1.1a

Fig. 4.1.5b AGE-SEX DISTRIBUTION OF ENUMERATED POPULATION



SOURCE : Table 4.1.1b

4.1.6 Family structure of the enumerated population

Table 4.1.6: FAMILY STRUCTURE OF THE ENUMERATED POPULATION.

RELATIONSHIP TO HEAD OF THE HOUSEHOLD	TOTAL NUMBER	TOTAL PERCENT
Head	207	24.0
Wife	76	8.8
Husband	1	0.1
Son	213	24.7
Daughter	166	19.2
Brother/Sister	93	10.8
Parent/Grandparent	6	0.7
Aunt/Uncle	5	0.6
Cousin	7	0.8
Nephew/Niece	5	0.6
Grandchild	38	4.4
Others	47	5.4
TOTAL	864	100.1

The table above shows a closely knit family structure found among the population under study.

A great majority of these persons are very close relatives to the head of the household. With 24 percent of all persons enumerated being household heads, we found 9 percent were their wives, 25 percent their sons, 19 percent their daughters and 11 percent their brothers and sisters. Together with the heads of households these relations accounted for 88 percent of the enumerated population. This is not very surprising as for a migrant there is no better place to stay than at his or her close relative's house. Only one of the female household heads had her husband living with her.

4.2. The socio-economic characteristics.

4.2.1 Occupancy characteristics.

Table 4.2.1 below shows the housing occupancy rates in the different enumeration areas of the survey. The mean household size for the whole enumerated population was found to be 4.8 persons but averaged as high as 8 persons for Kaloleni and 6.75 persons for Mbotela where one household of 16 persons whose ages ranged from 70 years down to 3 months shared

TABLE 4.2.1. OCCUPANCY CHARACTERISTICS AMONG RESIDENTS
IN ENUMERATED HOUSEHOLDS BY ENUMERATION
AREA.

CHARACTER- ISTIC (AVERAGE)	ENUMERATION AREA									
	1	2	3	4	5	6	7	8	9	10
Household Size.	3.89	8.00	6.75	4.07	6.00	4.60	3.75	4.45	4.18	2.83
No. of Rooms.	1.00	1.17	1.00	1.14	1.00	1.00	1.00	1.00	1.50	1.25
No. of Occupants per Room.	3.89	6.86	6.75	3.57	6.00	4.60	3.75	4.45	2.79	2.30
No. of Beds.	1.83	1.33	1.81	2.21	3.00	1.70	1.50	2.63	2.50	1.77
No. of Occupants per Bed.	2.36	6.00	3.72	1.87	2.00	2.71	2.50	2.69	1.67	1.60

one room that doubled for sleeping and cooking. The lowest household size was found in Mathare Valley (2.83) where many households are made up of single persons and pairs sharing a room. The number of occupants per room was virtually equal to the household size as the great majority of the dwelling units were single-roomed (88.7%) except in the case of Dandora, the sites and services scheme, where the number of occupants per room was nearly half the household size. In this area most of the households had more than one room to share. In all the households enumerated more than one person used one bed indicating that there is a high incidence of overcrowding as well as uncomfortable sleeping arrangements in the majority of these households.

4.2.2. Amenities of the dwelling units.

With respect to the two measures of quality of housing in this study - prevalence of permanent constructions and of amenities - a greater proportion of units were built of permanent materials. Only in Mathare Valley did we find houses of temporary and semi-permanent materials. However, most of the

units consist of a single room and lack both a toilet and kitchen. The majority of the households got their water from pipes outside with only a few with piped water inside the houses especially in the new housing estates of Kariobangi and the sites and services scheme at Dandora. A number of households in Mathare got their water from public well and the river. Most of the households got their lighting from kerosine lamp with only a handful using electricity for lighting. All the cooking was done using either a charcoal stove or simply firewood. A substantial number of households owned radios, only one household in the entire survey owned a television and this same household owned a pick-up vehicle. This one was among the more affluent group found in the sites and services scheme at Dandora. Table 4.2.2. below shows the amenities of the dwelling units.

TABLE 4.2.2. AMENITIES OF PRESENT DWELLING AMONG
LOW-INCOME RESIDENTS IN NAIROBI BY
ENUMERATION AREA. (PERCENT DISTRIBUTION)

ENUMERATION AREA										
AMENITY	1	2	3	4	5	6	7	8	9	10
	%	%	%	%	%	%	%	%	%	%
TOILET										
With own	0	100	94	100	0	0	0	40	0	6
Sharing	100	0	0	0	100	100	100	60	100	69
Without	0	0	6	0	0	0	0	0	0	25
KITCHEN										
With own	0	100	0	100	0	0	100	40	46	0
Sharing	0	0	0	0	0	0	0	0	0	0
Without	100	0	100	0	100	100	0	60	54	100
WATER										
Piped in House	0	100	0	100	0	0	0	40	100	0
Piped Outside	100	0	94	0	100	100	100	60	0	2
Public Well	0	0	0	0	0	0	0	0	0	90
Spring/River	0	0	6	0	0	0	0	0	0	8
% of Houses with One-room	83	83	100	86	100	100	100	100	55	80

4.2.3. Income

The income taken into account was that of the head of the household including any other income accruing to the household that the head of the household was aware of and declared to the interviewer. Table 4.2.3. shows the distribution of the gross household income for the sampled households.

TABLE 4.2.3. TOTAL HOUSEHOLD INCOME

KSHS PER MONTH	NUMBER	PERCENT	CUMULATIVE %
100 - 199	8	3.90	3.90
200 - 299	19	9.20	13.10
300 - 399	14	6.80	19.90
400 - 499	24	11.60	31.50
500 - 599	21	10.10	41.60
600 - 699	18	8.70	50.30
700 - 799	15	7.20	57.50
800 - 899	16	7.70	65.20
900 - 999	22	10.60	75.80
1000 - 1099	14	6.80	82.60
1100 - 1199	6	2.90	85.50
1200 - 1299	17	8.20	93.70
1300 - 1399	3	1.45	95.15
1400 - 1499	2	1.00	96.15
1500 - 1599	3	1.45	97.60
1600 - 1699	2	1.00	98.60
1700 - 1799	0	0.00	98.60
1800 - 1899	3	1.45	100.05
TOTAL	207	100.00	

MEAN = Shs. 743

On examination this table shows that 76 percent of the households depend on less than Shs 1000/= per month while 50 percent depend on less than Shs 700/= per month. and 32 percent depend on less than Shs 500/= per month. The mean overall income was found to be Shs 743/= per month (which is a little to the high side because of the few very high incomes in the distribution). It was also found that on average each household spends 17.6 percent of their income on rent. For the average household, therefore, only Shs 612/= is left for other uses such as food, school fees, clothes and so on. Taking into account the fact that the average household size was found to be 4.8 persons means that an average low-income urban dweller lives on the average of Shs 127/= per month for all his physical, social and economic needs. In this study the low-income worker was defined as one earning less than Shs 1290/= per month. Since only just over 6 percent of the respondents earned more than Shs 1300/=: the sample was quite representative of the low-income workers.

4.2.4 Education.

TABLE 4.2.4. RESPONDENTS BY NUMBER OF YEARS OF
EDUCATION.

YEARS	NUMBER	PERCENT	CUMULATIVE %
0 - 4	102	49.3	49.3
5 - 9	78	37.7	87.0
10 - 14	27	13.0	100.0
TOTAL	207	100.0	

Table 4.2.4. shows that nearly 50 percent of the respondents had 4 or less years of education while 87 percent had 9 or less years of education.

Taking the class interval 0-4 alone and looking at the individual response to the question on education by the respondents, it was found that 57 percent of those respondents grouped in this class had no education at all. However, the lack or possession of any education is not confined to any age group(s), in other words, it is not age-

specific, for it was often found that many relatively young heads of households, as in the case of many older ones, had no education and vice versa. On the whole, the female respondents were relatively less educated than their male counterparts.

4.2.5. Religious affiliation.

TABLE 4.2.5. RELIGIOUS AFFILIATION OF RESPONDENTS

RELIGION	NUMBER	PERCENT
Moslem	12	5.80
Protestant (CMS)	80	38.65
Catholic	90	43.48
Traditional	2	0.96
Other	23	11.11
TOTAL	207	100.0

Table 4.2.5. shows that the majority of the respondents were Christian (Catholic 43.6%) and

(Protestant, 38.7%). The Moslems comprised only 5.8%. Other religions took 11.1% of the total.

4.2.6. Maintenance of contact with permanent domicile

The majority of respondents especially the males had contact with their places of origin. A great number of them had land and houses in the rural areas and visited them quite often. Most of the female respondents felt that there was no place for them in the rural areas. Land is in short supply and women are still barred from inheriting land. Women come to the city to seek money either by employment or self-employment. The majority of the women that were interviewed looked at the rural areas with hate. Most of them came to the city either with a husband and then left him or fled a difficult domestic situation with a husband, father or brother in the rural area. This means that they are regarded as outcasts by the society and hence will have nothing to do with the rural areas.

4.2.7. Potential return migration.

TABLE 4.2.7 DISTRIBUTION OF RESPONDENTS ACCORDING TO THEIR MIGRATION PLANS.

PLAN TO:-	NUMBER	PERCENT
Settle in Nairobi	194	93.7
Move to another town	1	0.5
Go back to rural area	7	3.4
No plan at all	5	2.4
TOTAL	207	100.0

Table 4.2.7. shows that 93.7 percent of the respondents planned to stay in Nairobi while only 3.4 percent planned to go back to the rural areas. Although many had contact with rural areas they felt that the advantages of staying in the city, outweighed the disadvantages. Many had established wage employment, self-run businesses and so on and therefore found no substitutes for these in the rural areas.

In this chapter we have identified the demographic and socio-economic characteristics of the low-income migrant in Nairobi. The information from the questionnaire has been tabulated under relevant headings and rates and ratios have been calculated for each characteristic where possible. Figures have been drawn where greater illustration of the findings was deemed necessary. The following chapter 5 will present the results of the analysis which uses simple correlation and multiple correlation and regression techniques to study the effects of a number of independent variables on the housing need.

CHAPTER 5

5. RESULTS OF THE ANALYSIS: RELATIONSHIPS BETWEEN THE HOUSING NEED AND DEMOGRAPHIC AND SOCIO-ECONOMIC VARIABLES

5.1. The foregoing chapter has presented a detailed description of the demographic and socioeconomic characteristics of the low-income migrants in Nairobi. One of the major objectives of this study was to identify the demographic and socioeconomic variables most responsible for the deteriorating housing conditions of the low-income migrants in the city. This chapter is, therefore, intended to facilitate interpretation of the results of the correlation and regression analysis: a search for correlates of the housing need among these people.

In this study the "housing need" has been viewed as an ambivalent phenomenon. The need has been divided into an occupancy variable quantified by the "occupancy density" (number of persons per room) and a demand variable quantified by "proportion of income spent on rent". The strategy is to discover whether occupancy density and proportions of income spent on rent vary with differences in combinations of demographic and socioeconomic variables of the low-income migrants, and see the extent to which these combinations affect the housing need.

In the analysis, occupancy density (X1) and proportion of income spent on rent (X3) were the dependent variables. The independent variables were: number of years of education of the head of household (X2), age of the head of household (X4), rate of natural increase (X5), mean duration of continuous stay in Nairobi (X6) and percent of houses with one room (X7). In addition each dependent variable acted as independent variable in the regression equation of the other. Although many characteristics were described in Chapter Four of this study, several of them could not be easily quantified and were dropped from the analysis.

For purposes of this study, specific hypotheses relating to each of the explanatory variables and each of the criterion variables were, in some cases, developed more easily than others. We wish now to simultaneously test these relationships, each factor "in the presence of" or "controlling for" all others. The general form of the basic mathematical model is:

$$Y_i = a + b_1X_{1i} + b_2X_{2i} + \dots + b_kX_{ki} + e_i$$

where Y_i = value of the dependent variable for
ith observation

X_{ki} = value of the kth independent variable for
the ith observation

e_i = the residual error, that is, amount by
which ith observation deviates from the
value of Y.

a and b_k are regression coefficients which are to be estimated from the sample and $(e_i)^2$ is minimal.

5.2. Simple, partial and multiple correlation coefficients between each dependent variable and the independent variables were calculated. Table 5.1. shows the zero-order coefficients between the occupancy density (X1) and the determinant variables. To determine the relationship between occupancy rates and each of the independent variables, zero-order coefficients were examined. These show that the greatest impact on the occupancy density comes from percent of houses with one room (X7) $r=.501$ which explains $r^2=25.1$ percent of the total variation in the occupancy density. This is followed by mean duration of continuous stay in Nairobi (X6) $r=.392$ explaining $r^2=15.4$ percent of the total variation in the occupancy density. Rate of natural increase (X5) explains 10.6 percent, followed by age of head of household (X4) explaining 7.0 percent, followed by number of years of education of head of household (X2) explaining 3.3 percent and the proportion of income spent on rent explaining 2.7 percent of the total variation in the occupancy density.

TABLE 5.1 ZERO-ORDER COEFFICIENTS BETWEEN X1 AND
THE INDEPENDENT VARIABLES

Dependent Variable	Independent Variable	Simple $r^@$	Coefficient of determination $r^{2\sigma}$	Degrees of freedom (n-2)
X1	X2	.182	3.3	205
	X3	.163 ^a	2.7	205
	X4	.265	7.0	205
	X5	.325	10.6	205
	X6	.392	15.4	205
	X7	.501	25.1	205

@ Significant at .001 level

a Significant at .01 level

TABLE 5.2. MULTIPLE CORRELATION ANALYSIS OF X1

Dependent Variable	Independent Variable	Coef. of multiple correl. R	Coef. of multiple determ. $R^{2\sigma}$	Degrees of freedom (k, n-k-1)
X1	X2			
	X3			
	X4			
	X5			
	X6			
	X7	.746	56% [£]	(6, 200)

£ Multiple R^2 significant at .001 level.

5.3. Taking all the determinant variables together, Table 5.2 above shows the results of the multiple correlation analysis. Altogether the independent variables explain 56 percent of the variance in the occupancy *density* thus leaving 44 percent of the variation unaccounted for. Of the explained variation, percent of houses with one room explains 25.1 percent. Introduction of proportion of income spent on rent into the equation explains an additional 18.3 percent variation in the occupancy *density*. The remaining variables contribute little additional explained variance: X4(4.9 percent), X5(3.1 percent), X6(2.9 percent) and X2(1.3 percent) in the occupancy *density*.

TABLE 5.3. PARTIAL CORRELATION AND STANDARDIZED PARTIAL REGRESSION COEFFICIENTS OF THE VARIABLES EXPECTED TO AFFECT OCCUPANCY RATES (X1)

Independent Variable	Partial $r_{V\cdot}$	Standardized B	Degrees of freedom (1, n-k-1)
X6	.411	1.079	(1,201)
X7	.525	1.416	(1,201)
X2	.297	-0.636	(1,201)
X3	.465	0.374	(1,201)

V All rs significant at .001 level.

5.4. In order to test the hypotheses set, a closer look at the partial correlation and standardized partial

regression coefficients was taken. For each of the hypotheses, the corresponding determinant variables were taken in turn.

(i) Mean duration of continuous stay in Nairobi (X6)

This variable was positive and significant in the hypothesized direction (see Table 5.3 above). This means that the longer the migrants stay in Nairobi the higher the occupancy density. With the increase in rural-urban migration in absence of any return migration (less than 4 percent of the respondents had any plans to return to the rural areas), higher occupancy density are obvious consequence. Coupled with this, as observations have previously shown (ibid. Leslie, 1963 and Caldwell, 1969), migrants take little or no prior stock of the existing space in the housing units of the household that they finally decide to move in with. Rural-urban migration, therefore, increases overcrowding and congestion.

(ii) Percent of houses with one room (X7)

This variable was positive and significant in the hypothesized direction. This may seem to show that low-income families prefer single-room units and will move into them as soon as they are available with the most important aim of saving income (single-room units tend to be cheaper) without giving any consideration to the consequent overcrowding. Therefore, as percent of houses with one room increases, occupancy density increases.

(iii) Number of years of education of the head of household (X2).

In the presence of all other variables, X2 was positive $r=.182$ contrary to the hypothesis. Controlling for all other variables, we see that the effect of education on occupancy *density* was negative (partial $r= -.297$ and standardised $B= -.636$) which, as expected, means that the higher the education of the heads of households the lower the occupancy *density*. Educated heads of households are expected to be more aware of the dangers of overcrowding and are more likely to try to reduce it. However, inferences on this result should be regarded as inconclusive because most of the respondents had little or no education and there was little ward-to-ward variation in education. There was also a number of extreme cases of respondents with extremely high education, and in many cases income, who affected the ward-to-ward averages.

(iv) Proportion of income spent on rent (X3)

The effect of this variable was positive and significant in the hypothesized direction. An increase of one standardized unit in the proportion of income spent on rent produces a 1.08 increase in the occupancy *density*. This increase in the proportion of income spent on rent is more of a direct result of the ever

increasing rents in the city, which seem to affect the low-income groups heavily, rather than peoples' willingness to spend more money for more rooms for their families. When the rents increase, while incomes remain low, people tend to move to even smaller housing further away from the city centre to the periphery or form joint-family households in the existing units in order to save income on rent. The direct result is overcrowding. Given the more or less streamlined rent system in most of the study area (equal rent for similar housing units) means that the lower the household income, the higher the proportion of income spent on rent. Moving to a single room or smaller unit may, and often does, mean spending less income on rent but for poor households, the proportion of income spent on rent remains high. At the same time there is increased overcrowding, which supports the hypothesis that households who pay higher proportions of their income in rent tend to have higher occupancy density than those who pay lower proportions of their income in rent.

TABLE 5.4 ZERO-ORDER COEFFICIENTS BETWEEN X3 AND THE DETERMINANT VARIABLES

Dependent Variable	Independent Variable	Simple r	Coefficient determination $r^2\%$	Degrees of freedom (n-2)
X3				
	X1	.163 ^c	2.7	205
	X2	.159 ^b	2.5	205
	X4	.103 ^a	1.1	205
	X5	.389 ^{&}	15.1	205
	X6	.412 ^{&}	17.0	205
	X7	.441 ^{&}	19.5	205

a Significant at .05 level

c Significant at .01 level

b Significant at .025 level

& Significant at .001 level

5.5. To determine the relationships between the proportion of income spent on rent and the determinant variables, zero-order coefficients were examined. Table 5.4. above shows that the greatest impact on the proportion of income spent on rent comes from percent of houses with one room (X7) $r=.441$ which explains $r^2=19.5$ percent of the total variation in the dependent variable. This is followed by mean duration of stay in Nairobi (X6) $r=.412$ which explains $r^2=17.0$ percent of the total variation in the dependent

variable. Rate of natural increase (X5) explains 15.1 percent, followed by occupancy density (X1) explaining 2.7 percent, followed by number of years of education of the head of household (X2) explaining 2.5 percent and age of head of household explaining only 1.1 percent of the total variation in the proportion of income spent on rent.

TABLE 5.5. MULTIPLE CORRELATION ANALYSIS OF X3

Dependent Variable	Independent Variable	Coef. of mult. correl.	Coef. of mult. determ.	Degrees of freedom (k,n-k-1)
X3	X1			
	X2			
	X4			
	X5			
	X6			
	X7	.958	91.8% [@]	(6,200)

@ Significant at the .001 level

5.6. Taking all the determinant variables together, Table 5.5 above shows the results of the multiple correlation analysis. In the regression model, the six independent variables combined explain 92 percent of the variation in the proportion of income spent on rent. Only 8 percent of the variation was unexplained by the regression model. Percent of houses with one room (X7) explained 19.4 percent of the variation. Introduction of rate of natural increase (X5), number of years of

education of the head of household (X2) and age of the head of household (X4) respectively explained additional 21.5 percent, 23.2 percent and 24.5 percent variation in the proportion of income spent on rent. The occupancy ~~density~~ (X1) and mean duration of stay in Nairobi (X6) added very little to the model.

TABLE 5.6. PARTIAL CORRELATION COEFFICIENTS OF VARIABLES EXPECTED TO AFFECT PROPORTION OF INCOME SPENT ON RENT (X3)

Independent Variable	Partial r_a	Degrees of freedom (1, n-k)
X6	-.425	(1,201)
X7	-.943	(1,201)
X5	.891	(1,201)
X4	.861	(1,201)

a All rs significant at .001 level

5.7 In order to test the hypotheses set, a closer look at the partial correlation coefficients shown in Table 5.6 above was taken. For each of the hypotheses, the corresponding determinant variables were investigated in turn.

(i) Mean duration of continuous stay in Nairobi (X6)

This variable was negative and significantly related to the proportion of income spent on rent as hypothesized. The longer the migrant stays in Nairobi,

the lower the proportion of income he spends on rent. Clark (1979) noted that the economic importance of the locality to its residents was based on three important factors the most important of which was rights to housing stock including home ownership, for own use and renting out of rooms. Ferraro (1971) noted the importance of the group of "old timers" in Ruiruta (an area of Dagoretti) in establishing the basis for community identity and integration. He continues to say that new arrivals to the area had lived there for less than five years and did not own houses in the area, nor did they cultivate any plots. The situation in Kibera, Mathare Valley and Kariobangi is very similar to this in many respects. It is mostly the "old timers" who own houses and rooms to rent. Therefore the long time migrants tend to pay lower proportions of their income in rent.

(ii) Percent of houses with one room (X7)

Percent of houses with one room was negative and significantly related to the proportion of income spent on rent (partial $r = -.943$) as hypothesized. Single-room units cost less in terms of rent and given a certain income level, the more of these there are the lower the proportion of income spent on rent. However, the question depends on the location of these single-room units, as in many cases, a single room in one area may cost more than a three-room unit in another area.

The reasons for this are many: availability of amenities, the building materials used, distance from city centre and employment opportunities, public services, security and surrounding environment are some of the factors that determine the demand for these housing units. Many low-income people do not have much to choose from as many of them have been found to live in dilapidated houses, overcrowded conditions, great distances away from their places of work and still be paying as much as 30 percent of their incomes in rent.

(iii) Rate of natural increase (X5)

This variable was highly positively related to the proportion of income spent on rent as hypothesized. As more and more people are added to the population through the balance of births and deaths, the demand for shelter increases. However, household incomes do not increase as fast as this balance, if ever, meaning that people will spend more of their incomes in order to acquire the extra shelter needed. On the other hand, natural increase aids congestion and worsens the living conditions of the people concerned in that the majority of the low-income people do not regard better housing as a top priority (natural increase was found to be positively and significantly related to the occupancy density). People live in slums and substandard environment not simply because housing elsewhere cannot be found. They do so mainly because they cannot afford the rents.

(iv) Age of the head of household (X4)

This variable was positive ($r = .103$) in the hypothesized direction. It was significantly related to the dependent variable. Its partial correlation of .861 was quite high. Introducing this variable into the regression model contributed an additional 24.5 percent variation in the proportion of income spent on rent. The explanation for this finding is that older heads of households are more generally less educated and technically trained and happen to be in the lower rungs of the income ladder. Therefore, because the rent system in the study area is more or less streamlined (equal for similar housing units in any given ward), they end up paying higher proportions of their incomes in rent than younger heads of households.

5.8. In summary, the results of the analysis generally support the hypotheses set in this study. In particular, mean duration of continuous stay in Nairobi and percent of houses with one room were both related positively and significantly to the occupancy *density* and negatively and significantly related to the proportion of income spent on rent in the hypothesized directions. An increase in any of these two variables means an increase in the occupancy *density* and a fall in the proportion of income spent on rent. Old time migrants among the low-income

households tend to have overcrowded houses and spend less of their incomes on rent than new migrants. The education variable was positive in the presence of all other variables contrary to the hypothesis. Controlling for all other variables, education had a negative effect on occupancy *density* meaning that more educated heads of households had less persons per room in their houses. The proportion of income spent on rent had a positive effect on the occupancy *density* and the results showed that poor households spent higher proportions of their incomes on rent and also had much higher occupancy *density*.

Regarding the natural increase (balance of births and deaths) variable, it was positively and significantly related to the occupancy *density* and the proportion of income spent on rent. This means that the high birth rates accompanied by very low death rates increase overcrowding and add to the misery of the poor in that, from such low incomes, extra mouths have to be fed, bodies to be clothed and housed. This means that there is less income to spend on other basic needs including housing. Regarding the age variable, older household heads were found to be less educated and technically trained and were in the lowest rungs of the income ladder. They generally paid higher proportions of their incomes in rent than younger, generally more educated heads of households.

CHAPTER 6SUMMARY, CONCLUSIONS AND RECOMMENDATIONS.6.1. Summary of the Main Findings

The primary goal of this study was to link the demographic and socioeconomic characteristics of the low-income migrants to their housing need in Nairobi. In order to do this, the study had to identify these characteristics. Furthermore, the study had to identify those characteristics most responsible for the deteriorating housing conditions of the low-income people. In this exercise, a household sample survey was conducted in the study area and information was collected from the heads of the sampled households by means of a questionnaire. The detailed description of the results of the survey are presented in chapter four of this thesis.

The results showed a relatively young age structure among the low-income population with 85 percent of this population below 40 years old. 57 percent of this population consisted of males, giving an overall sex ratio of 132. The majority of the respondents were married (49.3 percent) and single (32.4 percent). The ethnic composition revealed the predominance of the four main tribes: Kikuyu, Luo, Luhya and Kamba as shown in Tables 1 and 4.1.3(a). The results also show an overall rate of natural increase of 15.43 per 1000 population. Most of the respondents had migrated to Nairobi during the period soon after independence up to now. This result is in line with earlier observations of the

growth of the African population of Nairobi after the abolition of the in-migration restrictions.

It was also shown that the migrant population is concentrated in the young adult years and working age and is predominantly male as shown in Figures 4.1.5a and 4.1.5b. The survey showed a closely knit family structure among the population under study. Wives, sons, daughters, brothers and sisters accounted for 88 percent of the enumerated population. The mean household size was found to be 4.8 persons while the occupancy *density* averaged 4.5 persons per room. In the majority of the households more than one person used one bed. This *density* combined with the fact that 89 percent of the housing units were single-roomed, indicate extreme overcrowding as well as uncomfortable sleeping arrangements in the majority of the low-income households.

A greater proportion of the housing units were built in permanent materials but lack both toilet and kitchen. Except for Mathare Valley where people draw their water from public well and river, most of the households in the study area get their water from pipes outside the house. Lighting comes from kerosine lamp while cooking is done using charcoal stove or simply firewood.

The income distribution showed that half the households depend on less than Kshs.700/- per month. 87 percent of the household heads had little or no

education and 80 percent of them were Christian. The majority of the respondents had contact with their places of origin but 94 percent of them planned to settle in Nairobi permanently because they found no substitutes to their established wage employment and self-run businesses in the rural areas.

Several factors may be responsible for the poor housing conditions of the low-income people in Nairobi. In this study specific hypotheses relating each of the explanatory variables with each of the criterion variables were developed as given in Chapter One, section 1.3.3. A basic model was used to test these relationships. Simple correlation and multiple correlation and regression analysis were employed. To test these hypotheses, correlation and regression coefficients were examined.

The results of the analysis in Chapter Five generally support the hypotheses set in this study. In particular, mean duration of continuous stay in Nairobi and percent of houses with one room are both positively and significantly related to the occupancy density and negatively and significantly related to the proportion of income spent on rent in the hypothesized directions. An increase in any one of these two variables means an increase in the occupancy density and a fall in the proportion of income spent on rent.

This may seem to mean that low-income migrants who have lived in Nairobi for a long time tend to have more overcrowded houses and spend smaller proportions of their incomes on rent than do new migrants.

The education variable was positive in the presence of all other variables contrary to the hypothesis. Controlling for all other variables, education had an inverse effect on occupancy *density* meaning that more educated heads of household tend to have fewer persons per room in their houses. This would tend to mean that education helps by exposing to people the dangers of overcrowding and congestion and encourages them to reduce it as much as possible. The income variable had a positive effect on occupancy *density* meaning that poorer households spent even higher proportions of their incomes on rent and still had much higher occupancy *density*.

The natural increase variable (balance of births and deaths) was found to be positive and significantly related to the proportion of income spent on rent. This means that high birth rates accompanied by very low death rates increase overcrowding and add to the misery of the poor. From such low incomes, extra mouths have to be fed, and people to be clothed and housed. This results in less income to spend on basic needs such as housing.

The age variable seemed important only when we considered education and technical training, both of which played a determining part in the income ladder of the low-income people. Older household heads were found to be relatively less educated and less technically trained than younger ones and therefore were in the lower rungs of the income ladder. They therefore generally paid higher proportions of their income in rent than younger heads of households.

On the whole, it was found that all these factors have interacted with each other and others not in this study and, as a result, have brought about the present housing conditions. The analysis has shown that there is still some unexplained variance in the housing need, especially in the occupancy *density* among the low-income migrants. Reasons for the unexplained variance would include some combination of (a) nonlinear relationships, (b) unknown or unmeasured forces, (c) omission of interaction effects, and (d) measurement error (reporting or clerical errors) bringing about the observed *density* - a worthwhile and recommended opening for further research in the housing need of the low-income migrant population in Nairobi.

6.2. General Conclusions

The study has revealed that the continuing influx of rural people into the city in search for employment and better living conditions increases the housing problem in Nairobi. The majority of these migrants lack both education and skills training which precludes them from employment and the better living conditions that they set out to find in the city. Lack of income results in a number of people depending upon others for food and shelter thereby reducing the host's capital resources and overcrowding the already substandard accommodation.

The situation is worsened by the high birth rates among these people with frequent additions to their families increasing congestion and adding more demands on their already low incomes. The problem is further compounded by the fact that better housing does not rank highly among their basic priorities with the result of increasing development of slum areas and squatter settlements. The type houses that can be afforded by these people are mostly single-roomed and lack both kitchen and toilet. In these situations the living conditions are poor in the extreme.

The study has also revealed that the housing need (problem), is not simply the lack of houses which can be solved by simply building more. Both

demographic and socioeconomic characteristics of the people concerned must be related to the problem. It has been found that people live in slum and substandard conditions because they cannot afford the cost of housing elsewhere. Increased rural-urban migration, lack of education, skill-training and therefore dependable income, high natural increase and unplanned and frequent births, increasing rents for a few affordable houses as well as some unconsidered factors are some of the causes of the worsening housing and environmental conditions of the majority of the population of Nairobi.

6.3 Policy Recommendations

The high rate of urban growth, largely the result of high rate of rural-urban migration, is one of the root causes of the urban housing problem. Civic authorities' income base is so weak compared to the level of expenditure needed to service properly the urban population. The development of urban housing problem is further complicated by the lack of adequate purchasing power among a large section of the urban population. Those who migrate to urban situations have no immediate prospects of incomes needed to purchase essential goods and services. The result is a number of people depending upon others for food and shelter which inevitably results in overcrowding and congestion.

It is, therefore, desirable that policy makers should focus their attention on policies that discourage excessive influx of migrants into urban areas. One such approach would be increased rural development through decentralizing economic activity from urban to rural areas so that a more equitable allocation of activities could discourage rural-urban migration. In this respect, increased and improved agricultural production would play a central part because it would enable rural families to achieve basic needs. When executed, such a policy could decentralize not only labour but also capital and other resources. By maintaining investment in cities, the already large urban-rural gap tends to widen further leaving the rural population with no alternative but to migrate.

If it is necessary to disperse population, it must be acknowledged that an equal dispersal of economic activity would be required because it is obviously unreasonable to expect the rural (and sometimes urban) poor to remain in areas of low productivity and low per capita incomes. If the jobs will not go to the people, the people will inevitably come to the jobs. Building industries in rural areas will create jobs there and help to reduce the rural-to-urban influx.

While recognising the inevitability of rural-urban migration, we must not forget the fact that, even if there was no addition to the city's

population (through migration and natural increase) for any given period of time, the housing problem is already acute for the present city population. The majority of these people live in slum and squatter settlements on the periphery of the city. Therefore, the abandonment of slum clearance by the city authorities is a welcome policy. However, this must be accompanied by the rehabilitation of these slums and squatter settlements and the communities which occupy them. This action would form a more appropriate framework for urban programmes aimed at increasing and improving the existing housing stock.

Regarding education, it has been observed that rural out-migration probabilities are higher among those with higher educational attainments, no doubt reflecting the greater returns to urban residence for the educated than the uneducated. However, improvement in schooling opportunities in rural areas would very likely dampen the flow of individuals (and their families) into urban areas specifically to acquire more education. Thus, the age pattern of migration may change more than its level as a result of programmes to improve rural education. Alongside this, rural health advances will almost certainly accelerate rural growth and, where land tenure systems are absorbent, they are likely to dampen out-migration.

6.4. Opportunities for Further Research

This study revealed several areas which need further investigation.

1. There is still need to investigate the role played by other factors such as employment, distance from place of origin, distance from place of work, religious affiliation, marital status, occupation and incidence of crime among the low-income people.
2. There is a definite need to investigate the effect of rural industrialization on return migration.
3. There is also need to investigate the effect of the housing and environmental conditions on infant welfare and the rates of infant mortality among the low-income migrants.
4. There is need to investigate the present and future roles of the site-and-service schemes in the provision of low-income housing.

The above list is by no means exhaustive, and therefore, it is hoped that other fields of research will arise from this study.

APPENDIX A

COMPUTER SUMMARY TABLES

ANALYSIS OF OCCUPANCY RATES (XI)

Variable	Multiple R	R ²	R ² Change	Simple R	B	Beta
X7	.50125	.25125	.25125	.50125	15.28989	1.41644
X3	.65878	.43399	.18274	.16294	31.75631	1.07912
X6	.68080	.46349	.02951	.39168	.10279	.37416
X4	.71560	.51208	.04859	.26506	-.21627	-.75114
X2	.72433	.52466	.01257	.18223	-.54863	-.63618
X5	.74550	.55577	.03111	.32507	-25.22611	-.49704
(Constant)					- 4.62880	

ANALYSIS OF PROPORTION OF INCOME SPENT ON RENT (X3)

Variable	Multiple R	R ²	R ² Change	Simple R	B	Beta
X7	.44054	.19407	.19407	-.44054	-.40167	-1.09502
X5	.63931	.40872	.21464	.38869	1.28536	.74529
X2	.80027	.64044	.23172	.15857	.02422	.82640
X4	.94095	.88538	.24494	.10298	.00680	.69473
X1	.94844	.89953	.01415	.16294	.00680	.20001
X6	.95795	.91766	.01813	.41170	-.00155	-.16648
(Constant)					.11298	

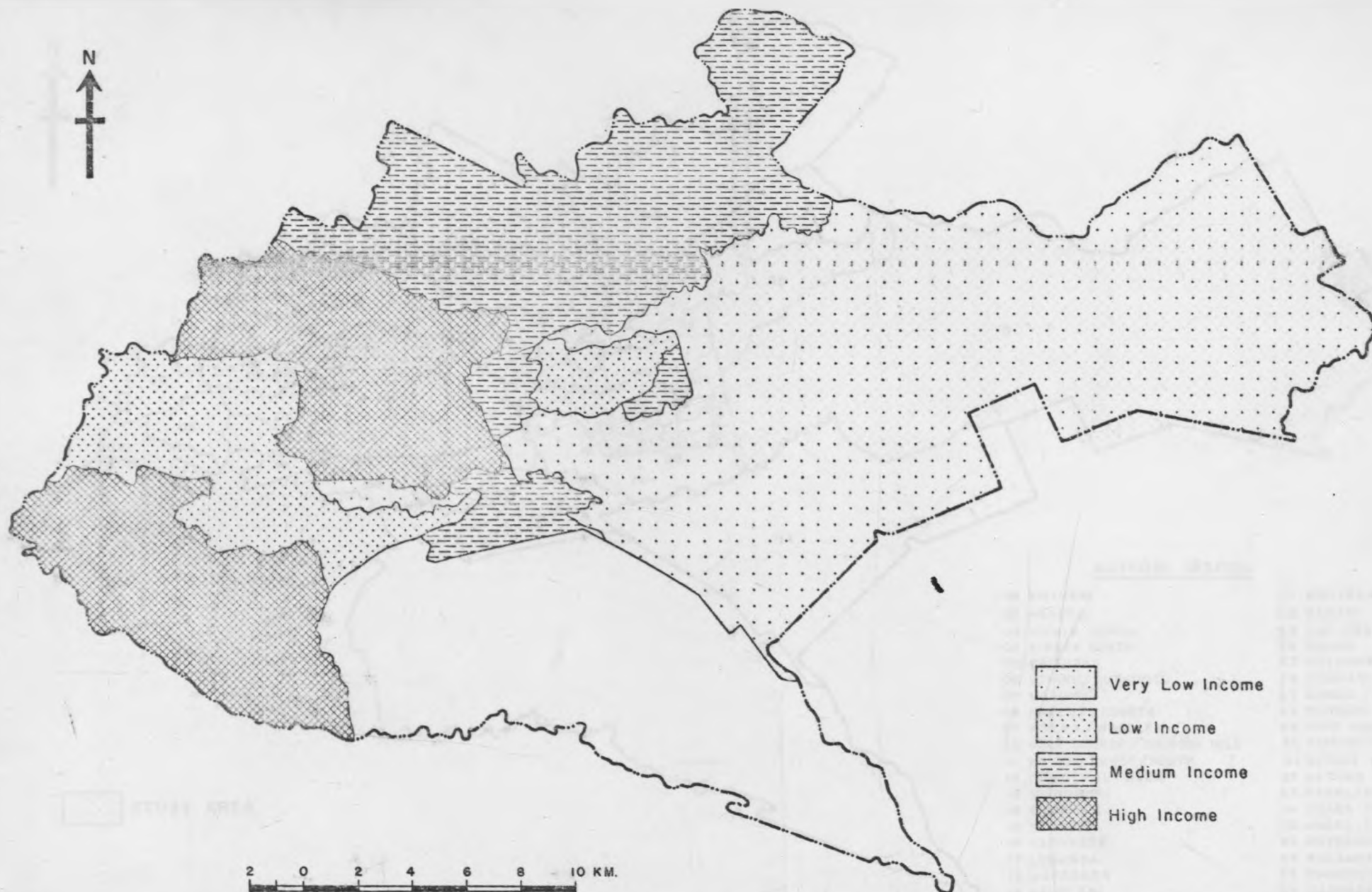
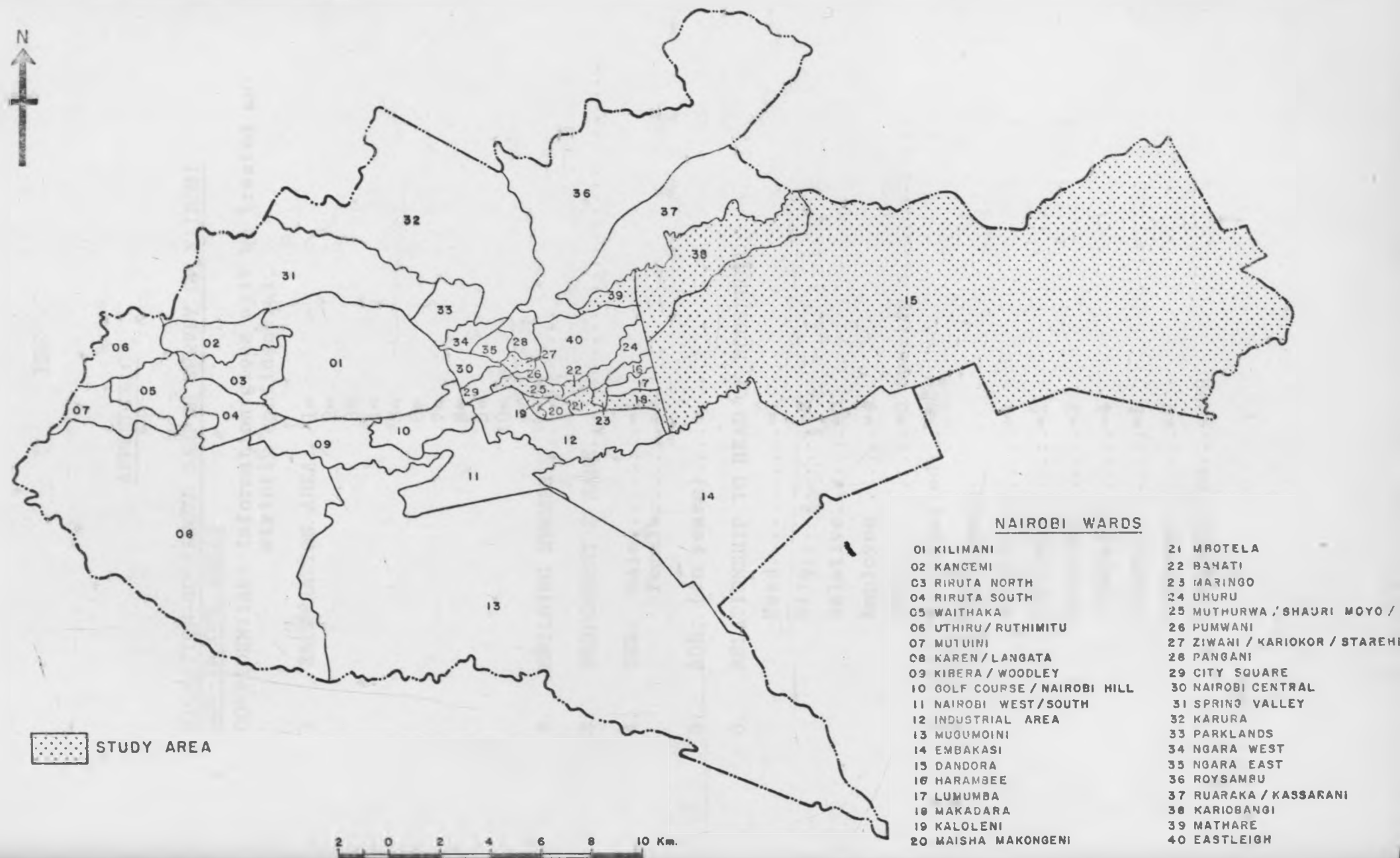


Fig.3.1 STUDY AREA - NAIROBI



APPENDIX CMIGRATION-HOUSEHOLD SAMPLE SURVEY OF NAIROBI
LOW-INCOME AREAS

CONFIDENTIAL: Information given will be treated as strictly confidential.

1. ENUMERATION AREA: 1=
2=
3=
4=
5=
6=
7=
8=
9=
10=
2. BUILDING NUMBER.....
3. RESPONDENT'S NAME.....
4. SEX: Male.....=1
Female.....=2
5. AGE: (in years).....
6. RELATIONSHIP TO HEAD OF HOUSEHOLD:
Head.....=1
Wife.....=2
Relative.....=3
Employee=4
Other.....=5 Specify
Not reported...=999
7. MARITAL STATUS:
Single.....=1
Married.....=2
Divorced.....=3
Seperated.....=4
Widow.....=5
Widower.....=6
Not reported...=999

8. ETHNIC GROUP:

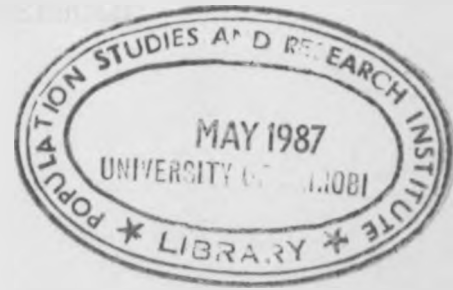
Kamba.....=1
 Kikuyu.....=2
 Luo.....=3
 Luhya.....=4
 Masai.....=5
 Kisii.....=6
 Somali.....=7
 Other.....=8 (specify.....)
 Not reported.....=999

9. PLACE OF BIRTH:(Province)

North Eastern.....=1
 Eastern.....=2
 Nairobi.....=3
 Coast.....=4
 Central.....=5
 Rift Valley.....=6
 Nyanza.....=7
 Western.....=8
 Not in Kenya=X
 Not reported.....=999

10. RELIGIOUS AFFILIATION:

Moslem.....=1
 Protestant.....=2
 Catholic.....=3
 Traditional.....=4
 Other.....=5 (Specify.....)
 Not reported.....=999



11. EDUCATIONAL ATTAINMENT:

None.....=0
 St.1-St.4.....=1
 St.5-St.7.....=2
 Secondary.....=3
 H.S.C.=4
 Tech. College.....=5
 University.....=6
 Other.....=7 (Specify.....)

12. SOCIAL STATUS:

Unemployed.....=1
 Self-employed.....=2
 Casual worker.....=3
 Seasonal farmer.....=4
 Housewife.....=5
 Civil servant.....=6
 Industrial worker=7 (Specify concern.....)
 Student.....=8

13. OCCUPATION:

What kind of job do you do here in Nairobi?
 Specify.....

14. RECORD INFORMATION ABOUT SPOUSE(S) (living here/away) as below:

Number of spouses:

0.....=0
 1.....=1
 2.....=2
 3.....=3
 4.....=4
 x.....=5 (Specify number.....)
 Not reported.....=999

15. (a) NUMBER OF PEOPLE LIVING IN HOUSEHOLD:

1-4=1

5-9=2

10-14.....=3

15 and over.....=5

Not reported.....=999

(INTERVIEWER: make note of the number given)

15. (b) How many relatives or friends have come to stay with you permanently in the past twelve months?.....

16. RENTAL VALUE OF THE DWELLING UNIT:

(a) SPECIFY amount in Kenya shillings

KShs.....

(b) OWNER HOUSE (tick here).....

(c) Would you be willing to move to another dwelling unit within this area?

Yes.....=1

No.....=2

If yes, (i) Why.....

(ii) Where.....

(d) Who did you put up with when you first came to stay in Nairobi?

A relative.....=1

A friend.....=2

I rented a room.....=3

I rented a house.....=4

Other.....=5 (Specify.....)

Not reported.....=999

17. INCOME LEVEL:

- (a) Approximately how much money do you receive per month?

Specify figure in KShs.....

- (b) What other source(s) of income other than employment do you have?

None.....=0

From relatives.....=1

Brewing.....=2

Sales of farm produce at home.....=3

Other.....=4 (specify source.....)

No response.....=999

18. About how much were you earning before migrating to Nairobi?

Specify approximate amount in KShs.....

19. DURATION OF STAY IN NAIROBI:

- (i) In which year did you come to Nairobi?

Specify year

- (ii) For how long have you been living in Nairobi?

0-4 years.....=1

5-9 years.....=2

10-14 years.....=3

15-19 years.....=4

20-24 years.....=5

25 years and over.....=6

Can not remember.....=999

- (iii) In which year did you move to stay in this area?

Specify year

20. Why did you choose to stay in this area of Nairobi?

(i) It is the nearest to my place of work=1

(ii) Labour quarters for industry where
I work=2

(iii) My relatives/friends stay in this area....=3

(iv) Security.....=4

(v) Other.....=5

Specify

(vi) No response.....=999

21. EXTENT OF PRESENT CONTACT WITH HOME AREA:

(i) How often do you visit your home area
since you started living in Nairobi?

Quite often.....=1

Sometimes.....=2

Never.....=3

(ii) Do you own a house and/or shamba back home?

Yes (Land only)=1

(House only).....=2

(Land & House).....=3

No.....=4

Not reported.....=999

(iii) INTERVIEWER: If answer is yes, ASK:

Approximately how much land do you have/own?

Specify number of acres.....

(iv) Are you still actively engaged (at home in
the rural area) in:

Cultivation.....=1

Livestock raising....=2

Other activities.....=3

Specify.....

21. (contd.)

(v) Who looks after your land and/or house in the rural area?

- My father/father-in-law.....=1
- My mother/mother-in-law.....=2
- My brother/sister.....=3
- My wife.....=4
- My husband.....=5
- Other person.....=6
- Specify.....
- Not looked after.....=7

22. POTENTIAL RETURN MIGRATION:

Do you plan to:

- (a) Settle in Nairobi.....=1
- (b) Move to another town.....=2
- (c) Go back home.....=3
- (d) Other plans.....=4
- Specify plan.....
-
- (e) Don't know.....=5
- (f) No response.....=999

INFORMATION ABOUT THE HOUSING CONDITIONS AND
DWELLING UNIT

INTERVIEWER: Tick in the appropriate box where provided.
 Answer the following questions by
 observation.

1. House ☐ Flat ☐ Semi-detached ☐ Bed-sitter ☐

2. (i) Makeshift walls Yes ☐ No ☐

(ii) Dirt floors ☐ ☐

(iii) Holes or cracks in

(a) the roof (ceiling) ☐ ☐

(b) outside walls ☐ ☐

(c) floor ☐ ☐

3. How many rooms are in the house?

4. How many bedrooms does the house have?

5. How many beds are there?

6. Does the house have a separate kitchen?

7. The household get their water from:

(a) Piped water in the house=1 ☐

(b) Pipes or well outside the house...=2 ☐

(c) Public well.....=3 ☐

(d) Tank=4 ☐

(e) Spring or river.....=5 ☐

(f) Other.....=6 ☐

Specify source.....

8. How does the household dispose of sewage?

(a) Sewage system.....=1 ☐

(b) Outside toilet.....=2 ☐

(c) Outside latrine=3 ☐

(d) Other means.....=4 ☐

Specify means.....

9. Which of the following facilities are available to the household?

(a) Light

1. Electric.....= 1 ☐

2. Gas= 2 ☐

3. Kerosine lamp.....= 3 ☐

4. Other.....= 4 ☐

Specify type.....

(b) Paraffin stove.....= 5 ☐

(c) Charcoal stove.....= 6 ☐

(d) Radio.....= 7 ☐

(e) Car.....= 8 ☐

(f) T.V.....= 9 ☐

INTERVIEW SCHEDULE

TABLE 1

PERSONS PRESENTLY LIVING IN HOUSEHOLD BY AGE AND SEX (Interviewer: List Head of Household first)

[illegible]

WEA = WHICHEVER APPLICABLE

INTERVIEW SCHEDULE

TABLE 2

NUMBER OF CHILDREN BY SEX BORN IN THE LAST 12 MONTHS IN THE HOUSEHOLD.

	NAME OF CHILD	S E X		BORN, HOW MANY MONTHS AGO	MOTHER'S NAME	CODE	COLUMN
		M	F				
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							

TABLE 3

DEATH IN THE HOUSEHOLD IN LAST 12 MONTHS BY SEX AND AGE

	N A M E	S E X		AGE AT DEATH IN YEARS OR MONTHS	CODE	COLUMN
		MALE	FEMALE			
1						
2						
3						
4						
5						
6						
7						
8						

REDEFINITION OF CONCEPT AND DISCUSSION ON MATRIFOCAI OR FEMALE-
HEADED HOUSEHOLDS.

On page 18 the concept (i) "Effective demand for housing "has been deleted and replaced by

"HOUSEHOLD INCOME: Income that accrues to the head of the household and to other members of the household that is declared to the interviewer.

On page 55 the following paragraph is added:

"The majority of the women respondents said that they came to the city either with a husband and then left or fled a difficult domestic situation with one relative or another in the rural areas and set up a home and a business alone. They do not intend nor wish to marry or go back to the rural areas or to their husbands and use their houses/rooms both as their living and business premises. They have numerous dependants including their children, relatives and, in a considerable number of cases, friends.

BIBLIOGRAPHY

- Abrams, C., (1966), Housing in the Modern World
Faber.
- Bloomberg and Abrams, "Report of the United Nations
Mission to Kenya on Housing" (Nairobi,
Kenya: 1965) and Buttersby, "A
Survey of future housing needs in
Nairobi", prepared for the Nairobi
City Council, 1970.
- Bose, N.K., (1967), "Calcutta: A Premature Metropolis",
in Cities: A Scientific American
Book, Penguin.
- Caldwell, J.C., (1969), African Rural Migration,
the Movement to Ghana's Towns,
Canberra, Australian National
University Press.
- Clark, D., (1979), "Unregulated housing, vested
interest, and the development of
community identity in Nairobi",
in African Urban Studies, New
Series, Number 3, Winter, 1978-1979.
- Davis, K., (1971). "The role of Urbanization in the
Development Process", Unpublished
mimeographed paper presented at the
Sixth Rehovoth Conference, Israel.
- Dwyer, D.J., (1968), "Problems of Urbanization: The
example of Hong Kong", in
Institute of British Geographers,
Land Use and Resources, Studies in
Applied Geography, London, pp 169-85.
- Ferraro, G.P., "Kikuyu kinship interaction in Nairobi
and Rural Kiambu", Ph.D. Thesis,
Department of Anthropology,
Syracuse University, New York, 1971.
- Friedman, J., (1966), Regional Development Policy,
a case study of Venezuela, Mit.
Press.
- Great Britain, (1966), The East African Commission
1953-1955 Report, CMnd 9475,
London.

- Harrison, R.S., (1967), "Migrants in the City of Tripoli, Libya", Geographical Review, 57, 397-423.
- Henin, R.A., (1979), Alternative Population Projections for Kenya and its Provinces, PSRI, University of Nairobi.
- Kaye, B., (1960), Upper Nakin Street, Singapore: A Sociological Study of Households Living in a Densily Populated Area, Singapore, University of Malaya Press.
- Kenya, (1980), Report of the Civil Service Review Committee, 1979-1980, The Government Printer, Nairobi.
- Mabogunje, A.L., (1968), Urbanization in Nigeria, University of London Press.
- _____, Hardoy, J.E., Misra, R.P., (1978), "Shelter Provision in Developing Countries", The Gresham Press, Old Working, Surrey.
- Muwonge, J.W., (1980), "Urban Policy and Patterns of Low-Income Settlements in Nairobi, Kenya", Population and Development Review, Vol.6 No.4. December, 1980, pp 595-613.
- Nairobi Urban Study Group, (1972), Low-Income Housing: A Preliminary Study of the Requirements for the Low-Income Population, Nairobi City Council.

National Christian Council of Kenya, (1971),
"Report of the Rehabilitation
 Programme Among Urban Squatters
 in Nairobi", Nairobi.

Ominde, S.H., (1968), Land and Population Movements
 in Kenya, Feinneman, London.

_____, (1971), "Migration and the Structure
 of Population in Nairobi", in
Population in African Development,
 Vol.1. ed. Pierre Cantrelle
 (Liege: International Union for
 Scientific Study of Population)
 pp.537-550.

Otega, Margaret A., (1977), "Law, Credit and Housing:
 The Problem of inequality in
 Urban Kenya", Unpublished M.A.
 Thesis.

Rose, A.J., (1967), Patterns of Cities, Melbourne.

Silberman, R.L., (1971), "The distributional
 impact of public housing: A case
 study of Nairobi", Ph.D.
 dissertation, University of
 Michigan, Ann, Arbor.

United Nations, Department of Economic and Social
 Affairs (1960), Population
 Growth and Manpower in the
 Philippines, New York.

_____, Department of Economic and Social
 Affairs, (1965), World Housing
 Conditions and Estimated Housing
 Requirements, New York.

_____, Department of Economic and Social
 Affairs, (1971), Improvement of
 Slums and Uncontrolled Settlements,
 New York.

_____, (1967), Report of the Ad Hoc Group of Experts on Housing and Urban Development, (UN Publication, Sales No.63, 1V.1).

_____: Centre for Human Settlements (HABITAT), (1981), The Residential Circumstances of the Urban Poor in Developing Countries, New York.

Vaughan, T.D., and Dwyer, D.J., (1966), Some Aspects of Postwar Population Growth in Hong Kong, Economic Geography, 42, 37-51.

World Bank Sector Working Paper No.8 on 'Urbanisation' (1972).