"DETERMINANTS OF INTRA-RURAL LABOUR MIGRATION: A CASE STUDY OF MUMIAS AGRO-INDUSTRY IN WESTERN KENYA"

BY

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TO MY PARENTS AND SIBLINGS:

YOUR FAITH CARRIED ME THROUGH
THE GOOD AND BAD TIMES

DECLARATION

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

JOSEPHAT M. NYAGERO

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

DR. JOHN O. OUCHO

DR. SHANYISA A. KHASIANI

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However, I am solely responsible for any shortcomings this work may contain.

ABSTRACT

This study attempts to uncover some of the causes of rural-rural migration in Kenya. It is based on the 1983/84 Population-Agriculture Interrelationship Sample Survey conducted by a team of researchers from the University of Nairobi.

Motivation for the study arose from the fact that students of migration in Kenya have had a long-standing oversight of intra-rural migration, instead paying more attention to rural-urban migration. There was need to fill up this gap of knowledge and the present study offers that opportunity. Findings herein could complement those already established in previous rural-urban migration studies for a better understanding of internal migration in Kenya.

Until recently, urban areas in Kenya have remained the most visible centres of job opportunities, to which migration streams have gravitated. With the current swing of the pendulum of development towards district focus, pockets of rural development have emerged as new centres of job opportunities attracting potential migrants. The resultant is a new form of rural-rural migration process that should be investigated so as to establish its impact on the economy.

The present study is focussed on Mumias Sugar Industry in Western Kenya where an impressive rural development emerged in early 1970s. As a growing rural modern commercial sector, the study area has continued to usher in labour migrants from the surrounding less developed rural locations. To understand the causes and characteristics of migrants involved in this process, calls for an examination of factors assumed to influence some people to migrate and others not to migrate. Eight such explanatory variables are considered and analysed in this study.

The multiple regression results confirm that demographic, socio-economic and cultural-cum-spatial factors are important in determining rural-rural migration process in Kenya. The study also confirms that the migrating population is mainly composed of the older, less educated, with children and usually covering short

distances. However, there is evidence that recent migrants exhibit characteristics similar to those of rural-urban migrants. These findings have policy implications in both the rural areas of origin and those of destination. Recommendation is made for planners to make rural areas attractive by directing the country's resources towards rural economic projects. This would retain potential rural-urban migrants within the rural areas as well as increasing job opportunities in the country.

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CHAPTER ONE

INTRODUCTION

In response to the changing economic and social circumstances, internal labour migration is on the increase in developing countries. In this respect, rural-rural migration is mainly a result of processes of agricultural modernization and industrialization at rural destinations. The Mumias Sugar-Industry examined in the present study is a growing modern commercial sector within a rural setting. Since its establishment in 1973, there has been increased inflow of migrants whose main objective is to sell their labour in exchange for wages in the Sugar Complex. The present study examines factors influencing migration in this rural agro-industrial setting and proceeds to identify the major characteristics of migrants involved.

1.1 BACKGROUND TO THE STUDY AREA

This section provides a brief background of the study area. It commences with a general description of the physical and social environments upon which Mumias Complex is situated and goes on to present a brief history on the establishment of the sugar industry.

1.1.1 The Physical and Social Environments

Mumias Sugar-industry is situated about 416 kms. north-west of Nairobi, at approximately 34°30' longitude and 0°21' north latitude. Figures 1 and 2 show the location of Mumias town in Western Kenya and Mumias Sugar-industry respectively. Land surrounding the factory rises from 1,273 to 1,333 metres above sea level. It forms part of the Lake Victoria basin (Barclay, 1977:6). Nzoia river, flowing southwestwards drains the area leaving upland soils well-drained, unlike the lowlands bordering the river and its tributaries. The present vegetation is characterised by a wet-savanah grassland whose average annual rainfall ranges from 1600 mm to 1800 mm (see Figure 3). Such physical and climatical characteristics suit sugar cane growing among other agricultural activities in the area.

People inhabiting the area around Mumias Sugar Complex are the Wanga, one of the 17 "sub-tribes" of Luhya ethnic group.[1] They are thus known as the Luhya. According to 1979 population census, this "sub-tribe" (Wanga) had a population density of 233 persons per km^2. The density falls below that of Kakamega district (294 persons per km^2) but is slightly above that of

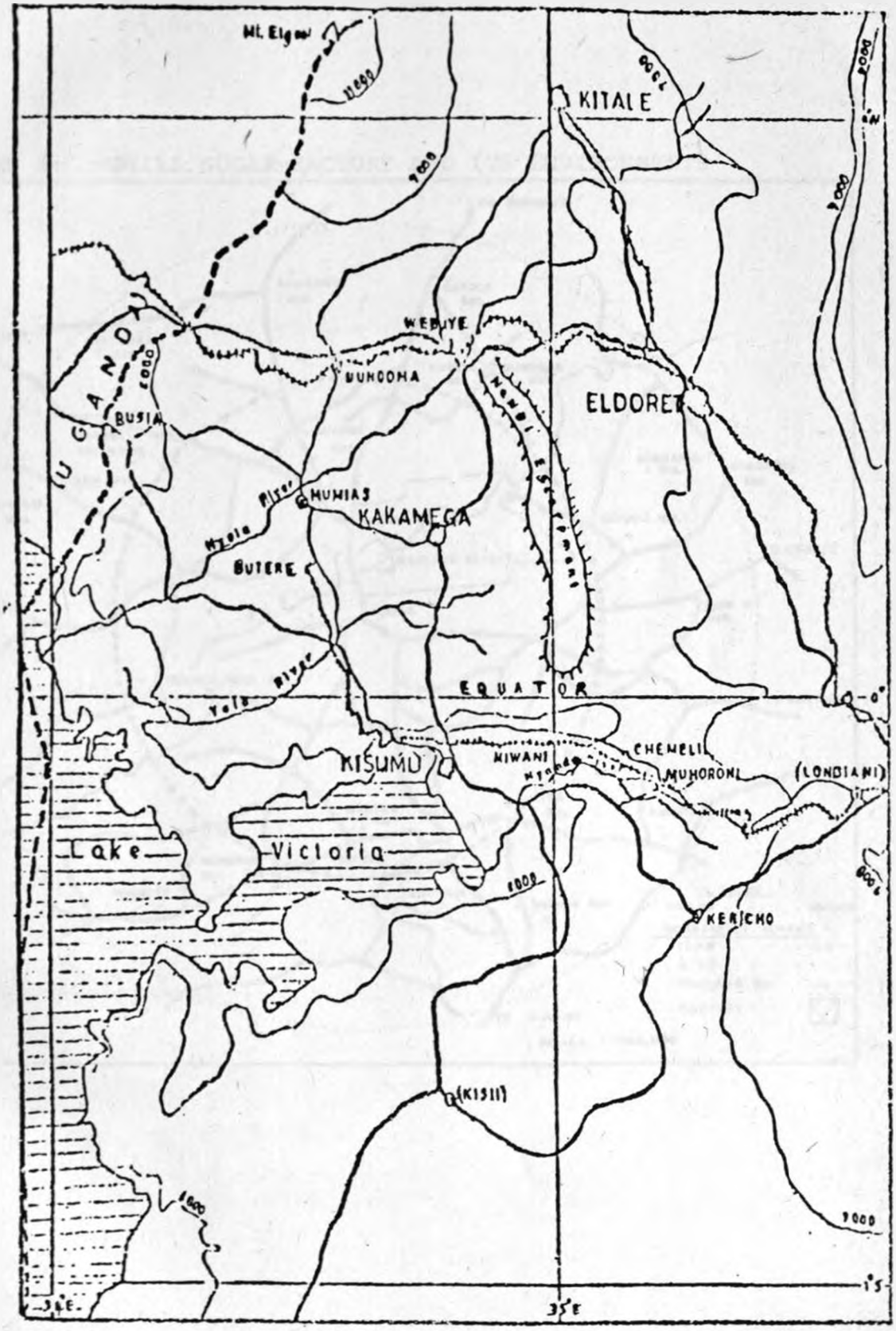
Western province (223 persons per km^2), as shown in Table 1.1 below. The observed sex ratio of 91 indicates that a majority of households in Wanga locations are female-headed. Prior to the establishment of Mumias Sugar Complex, the study area was a major out-migration region with a majority of males migrating elsewhere in search of "better opportunities" (Barclay, 1977). Apart from being less innovative, females do experience structural-blockage in decision-making process (Mbithi & Barnes, 1977). They usually consult their migrant husbands before implementing any domestic or developmental decision. Such a female preponderance would thus hinder both social and economic development in the area around Mumias Sugar Complex.

TABLE 1.1: THE 1979 POPULATION CENSUS BY SEX, SEX RATIO, AREA, DENSITY AND ADMINISTRATIVE AREA

ADMINSTRATIVE AREA	SEX		TOTAL	AREA IN KM^2	POPULATION DENSITY	SEX RATIO *
	MALE	FEMALE				
North Wanga Location	23,853	26,575	50,428	268	188	89.8
South Wanga Location	23,971	25,536	49,507	148	333	93.9
East Wanga Location	15,399	17,441	32,840	152	215	88.3
TOTAL	63,223	69,552	132,775	568	233	90.9
Kakamega District	489,938	540,949	1,030,887	3,495	294	90.6
Western Province	876,921	955,742	1,832,663	8,196	223	91.8

Note : * See Note 2

FIGURE 1: WESTERN KENYA



KEY:

Major Roads SCALE: 1: 1,000,000

Other Roads

International Boundary

Contours (in feet)

FIGURE 2: MUMIAS SUGAR-FACTORY AND ITS ENVIRONMENTS

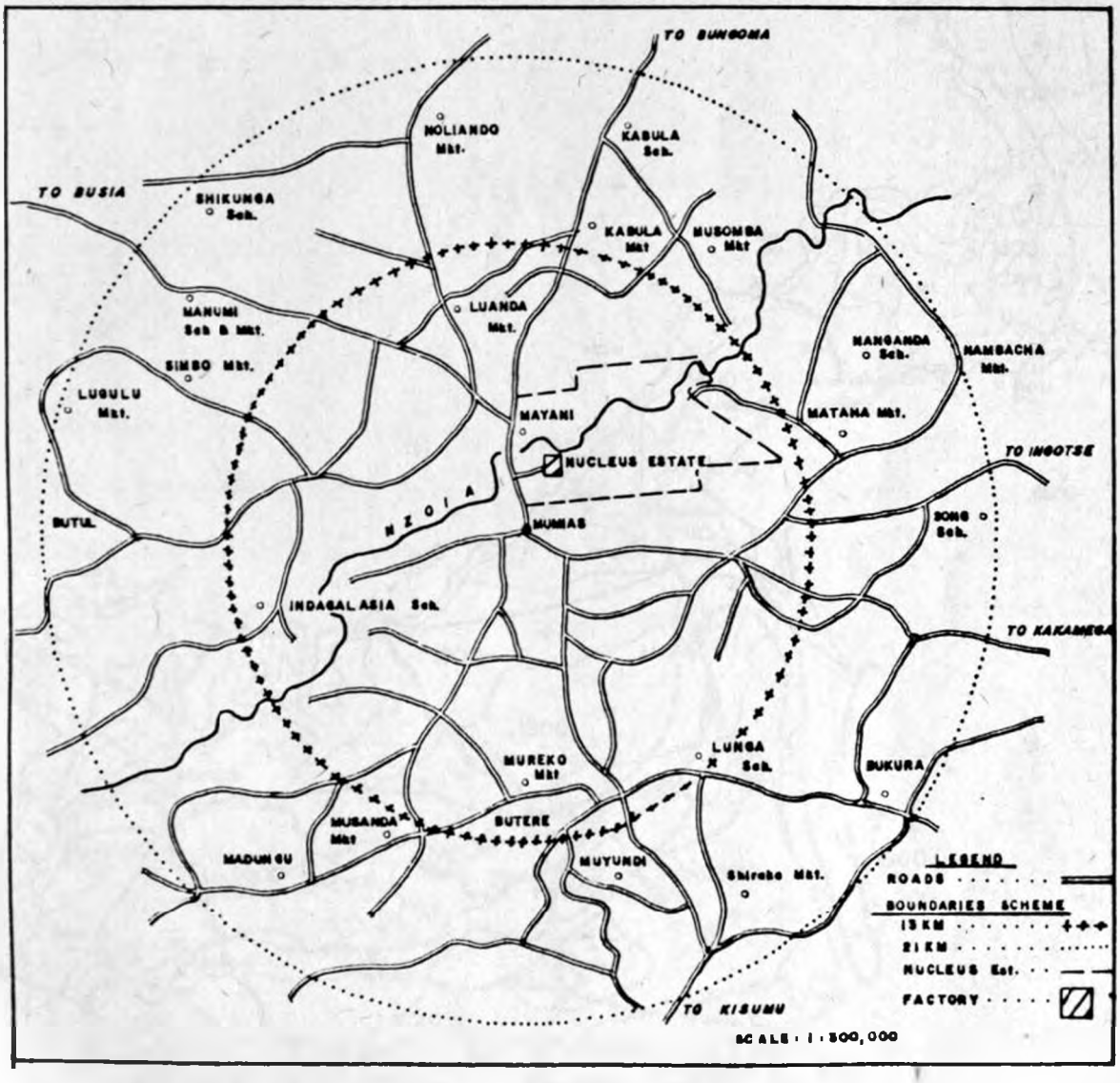
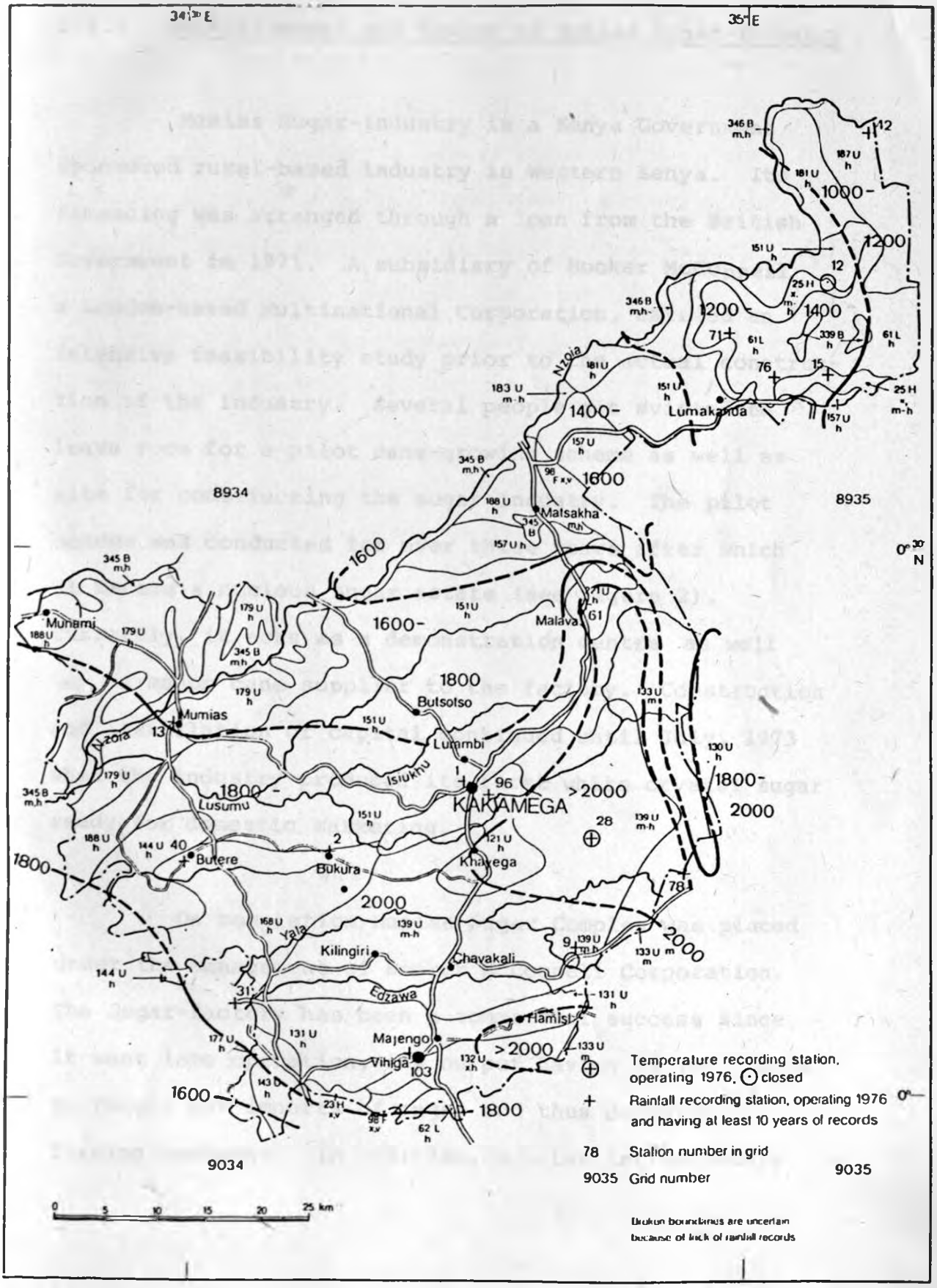


FIGURE 3: AVERAGE ANNUAL RAINFALL (in mm.) FOR KAKAMEGA DISTRICT



Source : Ministry of Agriculture

1.1.2 Establishment and Growth of Mumias Sugar-Industry

Mumias Sugar-industry is a Kenya Government sponsored rural-based industry in Western Kenya. Its financing was arranged through a loan from the British Government in 1971. A subsidiary of Booker McConnell a London-based Multinational Corporation, carried an intensive feasibility study prior to the actual construction of the industry. Several people got evicted to leave room for a pilot cane-growing scheme as well as site for constructing the sugar industry. The pilot scheme was conducted for over three years after which it became a nucleus sugar estate (see figure 2). Currently, it acts as a demonstration centre as well as a major cane supplier to the factory. Construction and installation of capital continued until July, 1973 when the industry produced its first white crystal sugar ready for domestic marketing.

On completion, Mumias Sugar Complex was placed under the management of Booker McConnell Corporation. The Sugar-factory has been a commercial success since it went into operation, its output having helped Kenya to reduce her imports of sugar and thus conserve foreign exchange. In addition, substantial secondary

benefits have been achieved especially in the surrounding community. First, the management implements the Government's labour-intensive policy by creating maximum employment. This deliberate effort to involve a large population in the factory's labour force has resulted in substantial labour influx whose characteristics and determinants are investigated in this study. Second, the surrounding people have greatly benefited from social amenities that have emerged from the Sugar complex. Some of such amenities are better feeder roads, a sports complex and a well established primary school that has gained recognition owing to its performance in national examinations. Third, sugar cane out-growers have generated high incomes by supplying their cane to the complex. All these gains raise the general welfare of the people.

1.2 NATURE AND SCOPE OF THE STUDY

Ominde (1968), using census data identified the two most important migration streams in Kenya as rural-rural and rural-urban. The former dominates overall inter-district migration in the country. The World Bank Report (1980) indicates that about 40 percent of life-time migrants in Kenya are involved in rural-rural migration, 33 percent in rural-urban migration, 24 percent in urban-rural migration and only 4 percent in urban-urban migration.[4] In a study of male migrants to Kenya's urban areas (Rempel et al , 1970), 78 percent of the respondents preferred life in rural areas to urban life, and 76.5 percent were not planning to stay permanently in the urban areas.[5] Implicit in these studies is the indisputable preference of rural destinations to urban ones among labour migrants in Kenya.

Inspite of its dominance, rural-rural migration has received little attention from students of migration in Kenya. Exploration of available literature shows an impressive stock of empirical work on rural-urban migration in the country (Rempel, 1969, 1976, 1981; Rempel et al, 1970; Rempel and

Todaro, 1972; Owuor, 1974; Huntington, 1974, 1977). Oucho's (1981) empirical work and Matingu's (1974) remain the only studies on rural-rural migration known to the present researcher. Generally, rural-rural migration has been more recognised than studied in contemporary Kenya.

Monsted and Walji (1978:134) identifies three main forms of rural-rural movements in the country. The first form consists of migrants into settlement schemes and low density areas where land has been purchased. The second comprises of movements into land not owned by the movers. These migrants are mainly squatters who take up government and forest land. The third form consists of migrants in search of employment in plantations and associated factories. This last form of rural-rural migration forms the basis for the present study.

1.2.1 Statement of the Problem

This study confines itself to the identification of factors influencing labour migration from less to more developed rural areas. The past development trends in Mumias complex offers a good

case of rural economic intervention , attractive to potential migrants. In an attempt to examine this rural-rural migration process, the study has the following objectives:

1.2.2 Objectives

i) To examine, on the one hand, those factors which "push" potential migrants from rural areas of origin and, on the other, those that attract them in Mumias Sugar Complex. To achieve this objective, a number of factors are examined. The direction and degree of association between the factors and migration are used to measure the influence in this study.

ii) To determine the major characteristics of rural-rural labour migrants within the Mumias Sugar Complex. This objective is achieved using univariate descriptive statistics computed for the factors considered in this study. The emerging characteristics are expected to have far-reaching repercussions on subsequent population, in both sending and receiving areas.

1.2.3 Justification for the study

The present study is considered necessary for four main reasons:

First, the "District Focus for Rural Development" (DFRD) policy among other things aims at accelerating industrialization process in rural areas. Some industries have already been established as a result of this policy. A study investigating the impact of such industries on employment and migration behaviour of the surrounding population is of paramount necessity. Mumias area represents a good case of rural industrialization in a poor and once neglected rural area.[3] Since its establishment in early 1970's, the area has become a commercial node easily attracting intra-rural labour migrants. An understanding of such labour behaviour is useful in predicting the impact of rural industrialization on migration trend in Kenya.

Second, the present study fills up an existing gap of knowledge. Students of migration in developing countries have had a longstanding oversight of rural-rural migration; instead paying more attention to rural-urban migration. To attain a better understanding of internal migration in Kenya, the present study intends to correct this unwarranted oversight committed by previous migration researchers. It also provides an opportunity to examine reasons behind rural-rural migration within the Kenyan context. Emerging empirical findings would adequately complement those already established in rural-urban migration studies (Rempel, 1969, 1976, 1981; Owuor, 1974; Huntington, 1974, 1977). It is unrealistic to assume that determinants of rural-rural migration are similar to those of rural-urban migration.

Third, since its establishment, the study area has never been subjected to any demographic study. The past development trend in the area has had significant effects on population dynamics, especially population movement which of necessity demands a careful study. As indicated earlier, the present study addresses itself to examining characteristics and factors influencing migration to the Mumias development pole.

Finally, an understanding of the nature of determinants of intra-rural migration is vital. The migration stream involves areas where over 80 percent of Kenya's population do reside. Further, development strategies have been shifted to focus on these areas as an attempt to raise the living standards of the majority of Kenyans. This study provides an opportunity to make insights into issues that often feature in policy decisions. Findings are thus useful to policy makers and regional planners interested in understanding the forces behind intra-rural labour redistribution before making any policy recommendation.

1.2.4 Conceptual Definitions

This sub-section provides precise definitions of concepts as used in the present study. Labour Migration is broadly defined as the movement of labour force from one social situation to another across administrative boundaries. The Location, an administrative area under a government-appointed local chief, represents the administrative boundary across which this labour movement occurs. Location is a convenient unit for this study because it is a small administrative area which usually exhibits homogeneity with respect to socio-economic development. Rural-rural Migration is the movement of labour force from various rural locations to Mumias Sugar Complex, also in a rural setting. The location within which the complex is situated is however considered more developed relative to those of origin. Labour migrants are factory workers who crossed a location to move into the Mumias Sugar Complex. Potential migrants refers to the population at the risk of migrating to the complex. Definition of variables considered in this study are deferred to chapter three sub-section 3.2.

1.2.5 Chapter Outlines

This study is presented in five chapters, an outline of which is given in this sub-section.

Chapter One specifies the study area and the research problem. It provides a brief background to the study area in terms of the physical and social environments in which Mumias Sugar Complex is situated. The chapter also presents the nature and scope of the study including; the objectives and its significance in general. Definitions of concepts are also presented in this chapter.

Chapter Two provides a selective review of literature related to the problem under study. Whereas some of the literature reviewed is cited in other chapters, this chapter provides a detailed account of findings relating to variables investigated in this study. It commences with a review on specific causes of migration and then proceeds to a general theoretical framework on the "Laws of Migration" and decision-making process models. Review of the former begins with the global level, moves on to Africa and Kenya in that order.

Chapter Three explains data and methodology used in the study. In this chapter, the data source, sampling procedures and collection technique are discussed. It further discusses the analytical tools used in data analysis and concludes with study limitations.

Chapter Four presents the analysis and findings of the factors responsible for labour migration to the Mumias Sugar Complex. The characteristic nature of these rural-rural migrants is also presented here. In addition, Multivariate regression results, drawn from an empirical rural-rural migration model, are presented in this chapter.

Finally, Chapter Five summarizes the findings of the study presented in Chapter Four. It also outlines policy implications, recommendations and areas for further research.

NOTES

1. Other "sub-tribes" of the Luhya in Western Kenya are: Marama, Kisa, Banyore, Maragoli, Tiriki, Isukha, Idakho, Batsotso, Kabrasi, Bukusu, Tadjoni, Banyala (of Navakholo), Bakhayo, Marachi, Samia, and Banyala (of Lake Victoria Shore) - See Were (1967).

2. Sex-ratio is the proportion of males per one hundred females. This definition corresponds to the expression:-

$$\text{Sex Ratio} = \frac{\text{Total Number of Males}}{\text{Total Number of Females}} \cdot K$$

where K is a constant and usually takes the value of 100.

3. During the Colonial period (before 1963), most rural areas in Kenya were neglected in terms of socio-economic development. More attention was given to the "White Highlands" occupied by the European Settlers. Mumias area, like a majority of Kenya's rural areas, was neglected until after independence. Post-independence development policies have given priority to those neglected areas and the present study area is one such beneficiary.

4. World Bank Report (1980) is compiled using the Kenya Population census of 1969. The migration trend in Kenya is not expected to have changed significantly between the 1969 and 1979 inter-censal period.

5. Henry Rempel, John Harris and Michael Todaro; "Rural-to-Urban labour migration: A Tabulation of the Responses to the Questionnaire used in the Migration Survey", Discussion Paper No. 92, Institute of Development Studies, University of Nairobi (March, 1970). Also see James C. Knowles and Richard Anker; "The Determinants of Internal Migration in Kenya: A District Level Analysis", ILO Working Paper (Oct., 1977).

CHAPTER TWO

MIGRATION THEORY AND FACT: A LITERATURE REVIEW

Both social and economic factors have been used by students of migration to explain motivational forces of migration in developing countries. Most of these studies have, however, concentrated on rural-urban migration. This is mainly because, until recently, urban areas have monopolized visible job opportunities, to which potential migrants gravitate. Rural-rural migration has subsequently remained more recognized than studied, a serious oversight on the part of previous researchers. This limitation has lured citing of rural-urban migration literature as relevant for the present study.

2.1 Review of Literature

Extensive literature exists on income differential and migration. For instance, in a study by Ladinsky (1967) on migration of professional workers in the United States, salary differentials are second to age as predictors of migration. Sahota's (1968) study on Brazilian inter-state migration found that wage differentials in favour of state j operated as a major pull factor at state i. When studying migration

to urban areas in India, Greenwood (1971) found the magnitude of rural-urban income differential so large that rural residents move with little regard for employment opportunities. Greenwood's finding is empirically supported in Carvajal and Geithman's (1974) study on migration in Costa Rica.

The positive influence of income differential on migration is empirically supported in studies carried out in Africa. Beals, Levy and Moses (1967), for example, found that wage differential, as a pull factor, was second to distance as a predictor of migration in Ghana. Caldwell (1969), also studying Ghanian inter-regional migration found that there is a flow of migrants from poor to richer regions of the country. Studies in Kenya similarly reflect positive association between income differential and migration.

Owuor (1974:44-45), studying the primacy of determinants of rural-urban migration in Kenya, found that income differential is a major pull factor. According to Todaro (1976), rural-urban migration is a rational response by potential migrants to the rural-urban differences in "expected rather than actual income." Todaro's "push-pull" migration model is based upon a

sample survey in Kenya. The model points out that urban wages are higher than those in rural areas and that the gap between them is ever widening in developing countries.[1]

In another study, Rempel (1981:94-6) found that the pattern of rural-urban income differential has a distinct monetary advantage for rural residents who obtain urban employment. He further found that the differential is positively related to the length of stay in town and the migrant's level of education. Rempel's study is based on a survey of migrants into eight of Kenya's major towns. Using regression analysis, Oucho (1981:172,175) confirms this well documented positive effect of income differential on migration. Studying rural-rural migrants to the Kericho Tea Complex, he found a strong positive correlation between income differential and migration.

Unemployment at origin is another important push factor in migration process. In a study by Adams (1969) on inter-regional migration in Jamaica, high unemployment level was found to be a significant push factor. Courchene (1970) found that unemployment at the province of origin significantly relates to out-

migration in a Canadian inter-provincial migration study. In studying the determinants of rural-urban migration in Sierra Leone, Byerlee, et al, (1976) found unemployment in rural areas an important factor. Greenwood (1978) similarly found unemployment to be a significant factor in Mexico's internal migration.

According to Todaro (1969, 1976), the search for employment is the major motive for rural-urban migration in developing countries. Todaro's finding is confirmed in Owuor's (1974:51-55) study in which job opportunities in Kenya's urban centres rank first as a determinant of rural-urban migration in the country. Evidence that migrants are attracted to the destinations with above-average unemployment levels is presented in Monsted and Walji (1978:134). They point out that lack of employment opportunities or of possibilities to earn income to supplement agriculture increases the tendency to migrate from one rural area to another.

Migration studies in Africa have shown that landlessness and/or low agricultural yields is crucial in migration process. Richards' (1955) study on labour migration found that a series of farm frustrations forced migrants from Rwanda-Burundi into Buganda.

Gulliver (1955) on the other hand found that the Ngoni and Ndendeuli of Southern Tanzania migrated as a result of low agricultural yields.

In a rural-rural migration and employment study in selected areas of Kenya, Matingu (1974:82-3) found access to grazing land to be of crucial importance. Similar sentiments are expressed by Monsted and Walji (1978:137) who identify landlessness as one major factor in rural-rural migration process in Kenya. Oucho (1981:146-7) depicts a vivid picture regarding population density on land to emerge from the reasons given among various tribal groups, in which the Gusii and Kikuyu are most affected.

Landlessness has also been found to be an important predictor of the rural-urban migration process in Kenya. In her study on migration disposition in Kenya, Khasiani (1982:94) found that little or no access to agricultural land leads to a disposition to migration. Other studies have found lack of land as a primary reason for migration; these include studies by Rempel (1970, 1976:11) and Owuor (1974:55-9) on Kenya's rural-urban migration processs.

Education has yielded inconclusive results from previous migration studies. On the one hand, migration varies directly with education and on the other, an inverse correlation has been found. For instance, in Caldwell's (1968:369-371, 1970) studies on rural-urban migration in Ghana, 83 percent of the males with secondary school and University training planned to migrate. Rempel (1970; 1976:7-9; 1981:78-9) found that 88 percent of the sample investigated had some formal education prior to migration. The ILO report (1972) which discusses on employment, income and inequality in Kenya similarly found education to be positively correlated with rural-urban migration. In a study on migration disposition, Khasiani (1982:100) found education to be a strong positive variable.

For the return migrants, that is, urban-rural migrants, Owuor (1974:72) found that the poorly educated people move back to rural areas as they fail to get urban employment. Matingu (1974:171-2), on the other hand, never found education to discriminate rural migrants from non-migrants in the rural areas she studied. However, Mbithi and Barnes (1975:160) point out that rural-rural migrants tend to have very poor school education and training.

According to their finding, more than 60 percent of the migrants have less than four years of school education. The recent study by Oucho (1981:190-2) also reveals that rural-rural labour migrants are less educated than their rural-urban counterparts. However, he noted that better educated migrants are beginning to dominate recent migrations.

Regardless of the migration stream, distance in several studies is a deterrent to migration. In a study of determinants of internal labour migration in India, Greenwood (1971:149) computed a strong negative correlation coefficient for distance as a variable. Support for such distance-migration relationship is wide-ranging. Vervon (1972), studying the spatial dimensions of the United States labour force migration, observed that migration decreases with distance. He, however, noticed the function of greater transport accessibility and migration. A study in Honduras by Croner (1972) found distance to be inversely related to migration. Levy and Wadycki (1973) similarly confirmed that distance deters internal migration in Venezuela.

Studying inter-regional labour migration in Ghana, Levy (1966) found that migrants grow less as distance from destination increases. Byerlee, et al (1976:92) found distance between rural areas of origin and urban areas in Sierra Leone to discourage movement. A study by House and Rempel (1980:35) found a strong negative correlation coefficient between distance and migration to Kenya's major urban areas. Rempel (1978, 1981:61) in a study of rural-urban migration similarly found an inverse association in Kenya. The finding is supported in a rural-rural migration study in Western Kenya by Oucho (1981:171-3, 175).

Several studies show that ethnic links between areas of destination and origin influence migration into the former. Caldwell (1969) observed that presence of relatives in Ghanian urban areas is a pull migration factor. A study of ethnic linkages in Kenyan rural-urban migration by Huntington (1974) found that presence of family members eases one's entrance into an urban centre. He further emphasizes the role of kin in providing sustenance during the job search and initial months of the migrant's employment. Owuor (1974:44) estimated that around 50 percent of the migrants into Kenya's urban areas have clan/friend contacts when they come to town.

Studying the migration to urban centres of unemployment in Tropical Africa, Gugler (1976) found the kin playing a major role in assisting new migrants in search for employment. Mbithi and Barnes (1975) found the presence of friends and relatives in prospective destinations a pull migration factor. Similarly, Monsted and Walji (1978:135) point out that contacts with relatives or friends in destinations tends to increase the tendency to migrate. According to Rempel (1981:61), prospective migrants consider presence of kin in urban destination prior to actual movement. In a rural-rural migration study, Oucho (1981:173) found a strong positive association between migration and ethnicity. Another study supporting ethnic links as vital in the act of migration is Adepoju's (1974) on Nigerian migration.

Various studies have shown that family size positively influences migration. Long's (1973) study in United States reveals that people with many children migrate less than those without. He argues that school-age children restrict mobility of parents. Caldwell's (1968:373, 1970) studies of Ghanian migration found low proportions of household heads with large family sizes migrating. Monsted and Walji (1978:134-5) support the dominance of household heads

with small family sizes in the migration process. In studies by Rempel (1976:12-3, 1981) of migrants into Kenya's major urban areas, unmarried males dominate the migration stream. Similar findings are found in Rempel and Todaro (1972:220), a study of rural-urban migration in Kenya.

The influence of age in migration has been studied by several students of migration. Analysing in-migration age structure in London (England), Cooke (1968) found age group 20-29 years predominant. Caldwell (1968:368, 1970) noted age group 15-19 dominating regional migration in Ghana. In a labour circulation study in Southern Rhodesia (now Zimbabwe) Mitchell (1969) found age to be a significant determinant. At the time of migration, Rempel (1976:36, 1981:80-81), 80 percent of the investigated sample was less than 30 years old. Rempel noted the highest propensity at age group 21-24 in his rural-urban migration study in Kenya. As a variable, age, in a migration disposition study in Kenya, Khasiani (1982:60-61), significantly raised the log-odds of being favourably disposed to migrate. This implies that older persons are more favourably disposed to migrate.

For rural-rural migration process in Kenya, Monsted and Walji (1978:137) point out that migrants tend to be much older than their rural-urban migrants. This finding is supported in Oucho's (1981:188) study. Rural-rural migrants in Matingu's (1974:82-83) study averaged the early thirties. However, the squatter rural-rural migrants in Mbithi and Barnes' (1975:160) study averaged around forty years.

2.2 Theoretical Framework

Ravenstein (1885, 1889)[2] identified the following factors as major in migration process:

First, migrants only proceed a short distance and their numbers decrease as distance from destination increases. Those proceeding long distances generally go by preference to one of the great centres of commerce and industry.

Second, inhabitants of the immediate periphery of a rapidly growing town flock into it and the gaps left in the rural population are filled up by migrants from more remote rural areas. This law emphasizes step by step or migration by stages. The process of dispersion takes the inverse of that of absorption and exhibits similar features.

Third, each main current of migration produces a compensating counter-current. In modern migration theory, stream and counter-stream are substituted for Ravenstein's current and counter-current.[3]

Fourth, the natives of urban areas are less migratory than those of the rural areas.

Fifth, females predominate short-distance migration while males dominate long distances.

Sixth, technological advancement increases migration. Ravenstein observed that improvement in the means of locomotion and development of manufactures and commerce lead to migration increase.

Finally, the desire inherent in most men to "better" themselves in material respects increases migration in this group of migrants.

Inspite of this tremendous contribution in migration theory, Ravenstein's laws fail to incorporate all variables known to influence migration process in the present times. Subsequently, Lee (1966) modified these laws in a model focusing on the potential

migrant's decision-making process which identifies four sets of factors before entering into the decision to migrate and the process of migration: (1) factors associated with the area of origin, (2) factors associated with the area of destination, (3) intervening obstacles, and (4) personal factors.

Lee argued that in every area there are numerous factors which act to hold, attract and/or repel people. These factors he refered to as positive, negative and zero factors (to which people are indifferent). However, a simple calculus of positive and negative factors do not decide the act of migration. Lee therefore argued further that a set of intervening obstacles exists between the two poles of migration. Distance is the most studied such obstacle while others include number of children, dependents and immigration laws. Different people are affected in different ways by the same set of factors and/or obstacles. This necessitated Lee to finally refer to personal factors which affect individual thresholds so as to facilitate or retard migration. These factors include: education, age, labour force entry or exit and marriage, all of which constitute changes in an individual's life cycle.

Lee's decision-making model fits well in the present rural-rural migration study. The four sets of factors have been incorporated. Income differential, landlessness, unemployment and ethnicity are the factors associated with the origin and destination considered in this study. Intervening obstacles include distance and family size while age and education are personal factors considered. These factors act in concert to influence the act of this rural-rural migration under study.

Shaw's (1975) cost-benefit migration model built on Lee's decision-making model, provides a more relevant framework for the present study. It was first developed by Sjaastad (1961,1962), spurred by the works of Schultz (1962). This model treats migration as an investment for which one expects to receive returns sufficient to off-set the costs of moving. Migration from one place to another is only possible when returns-costs discrepancy is greatest and above a given threshold value. This corresponds to the expression:

$$M_{i-j} = [(R_j) - (C_i)] > Q.$$

where,

M_{i-j} = Migration from origin i to destination j.

R_j = Returns at destination j

C_i = Costs incurred on leaving place i

Q= Some threshold value.

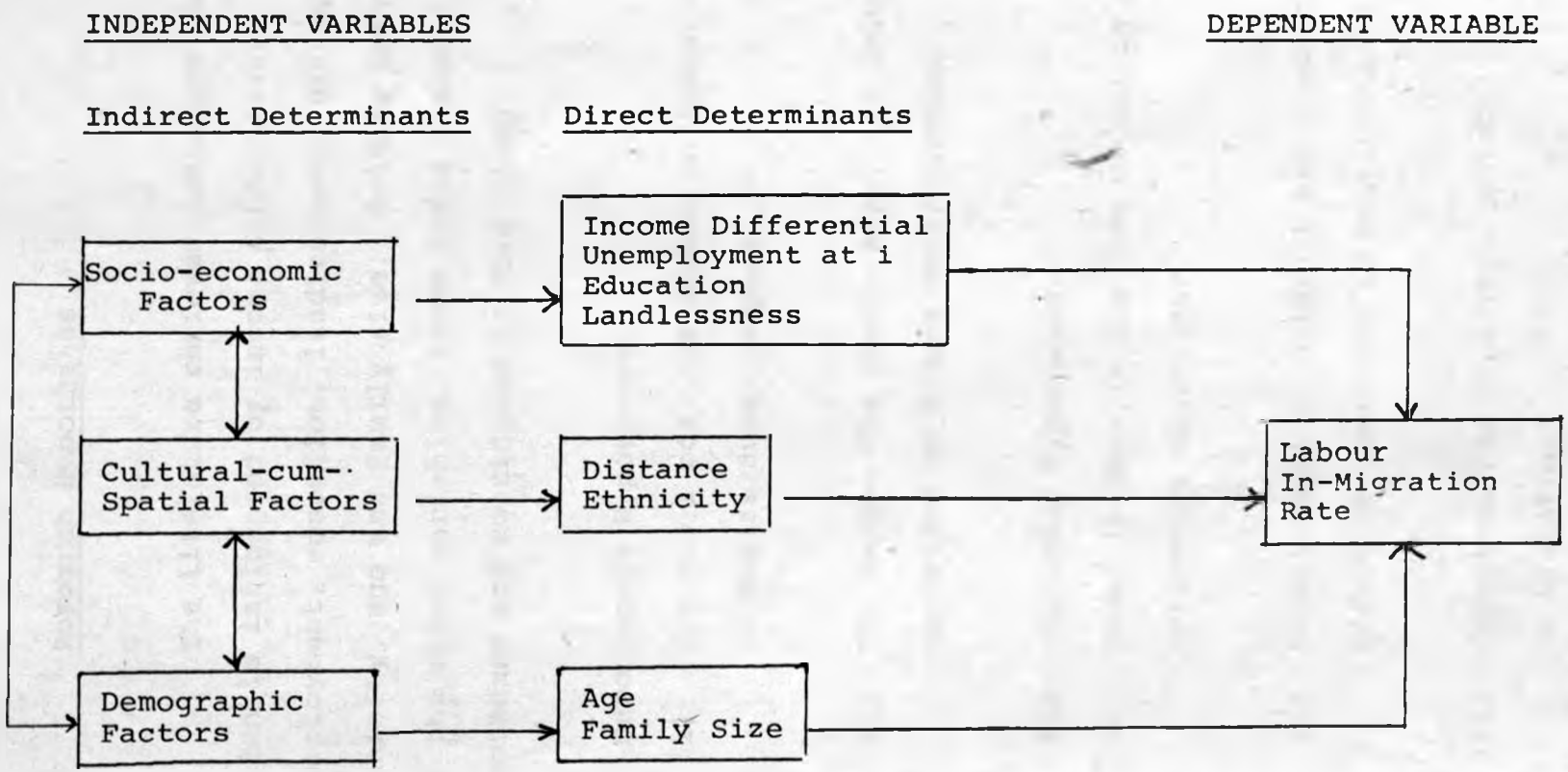
Parameters for the returns side, according to Shaw (1975), include: earnings at destination j, cost of living at destination j, probability of unemployment at j, non-monetary, psychic and amenity benefits at destination, and socio-economic factors. Parameters for the costs side on the other hand, include: earnings foregone at origin i, non-monetary or psychic costs, costs of leaving i, risk of unemployment at i and costs of moving from place i to j.

The cost-benefit migration model has been popular among economists as well as demographers in examining factors influencing migration. For instance, Speare (1969) based his study of rural-urban migration in Taiwan on a cost-benefit framework. Other studies which are based on this model include Todaro's (1971) study on "Income expectations, rural-urban migration and unemployment in Africa"; and Oucho's (1981) study on rural-rural migration in Western Kenya. In the present study, monthly incomes in Mumias Complex

surpass those at other rural areas of origin. Further, the risk of unemployment in the sugar-industry tends towards zero while that at origin tends towards one. This is a result of development differential between several rural areas and Mumias area.

The foregoing review indicates a theoretical framework upon which the present study fits. Borrowing from the literature and theories reviewed above, it would be conceptualized that socio-economic, cultural-cum-spatial and demographic factors are likely to determine labour migration into Mumias Sugar Complex. Schemematically, the relationships between the variables in this study can be illustrated as in Figure 4 below.

FIGURE 4: RELATIONSHIP BETWEEN INDEPENDENT VARIABLES AND THE DEPENDENT VARIABLE



2.3 Research Hypotheses

The literature reviewed indicates that migration is influenced by income differential, unemployment, education, landlessness, distance, ethnicity, age and family size. Holding constant all the other variables, three broad categories of hypotheses are considered in this study:

a) Demographic Hypotheses:

i) Age has a positive effect on labour migration to Mumias Sugar Complex.

ii) The larger the family size, the lower the migration to Mumias Sugar Complex.

b) Socio-economic Hypotheses:

i) Lower incomes in the area of origin positively influences migration.

ii) Unemployment at origin i has a positive effect on migration to destination j.

iii) Education has a positive effect on migration

iv) Landlessness is positively related to labour migration.

c) Cultural-cum-Spatial Hypotheses:

i) Distance inversely influences labour migration.

ii) Ethnic links between sending and receiving areas positively influences migration to the latter.

NOTES

1. In a paper on urban-rural income transfer in Kenya, G.W. Johnson and W.E. Whitelaw (1972) are in support of Todaro's point on the widening gap between urban and rural wages.

2. Ravenstein presented his first paper on the Laws of Migration before the Royal Statistical Society on March 17, 1885. This paper was based upon the British Census of 1881, but in 1889, he returned to the subject with data from twenty countries. His work was criticized by N.A. Humphreys and S. Bourg, who retorted that migration was distinguished for its lawlessness than having any definite law (see, Discussion on Mr. Ravenstein's Paper, in "Journal of the Royal Statistical Society", Vol.111 1889 pp.302-3. Nevertheless, Ravenstein's papers have stood the test of time and remain the starting point for work in Migration Theory.

3. For every migration stream, a counter-stream develops. The former refers to movement along specific routes towards a defined destination,

for instance, a given urban area. This stream occurs because opportunities are highly localized and in part because migrants usually follow established routes of transportation. Counter-streams occur when, for several reasons, migrants leave areas of destination in preference to the origin. Return migrants form best examples of counter-streams.

CHAPTER THREE

METHODOLOGY

The present Chapter is devoted to data and research methodology. In the first section, data source and sampling procedures are discussed. The second section considers measurement and processing of data while the next discusses techniques employed in data analysis. Finally, the chapter briefly points out limitations of data and analytical tools in this study.

3.1 DATA: SOURCE AND PROCEDURES FOR COLLECTION

This study is based on the first round of an on-going Agriculture-Demographic Inter-relationship Survey conducted by a Multi-disciplinary team of five principal researchers from the University of Nairobi during the period 1983/84 in Western Kenya.[1] A Canadian based agency, the International Development Research Centre (IDRC) provided funds for the Survey. Respondents are male employees of Mumias Sugar-industry Complex in Kakamega District. This group was selected because establishment of the sugar-industry in this

rural area created employment opportunities for various people, including migrants from outside the region. A majority of these migrants are males.

Sampling

As in many surveys, it was impossible for the principal researchers to collect information from all employees in Mumias Sugar Industry. This was because the working force was large and only limited time was available for the survey.

The principal researchers designed a random sampling procedure that enabled collection of information from ten percent of the non-managerial (i.e. lower job category)[2] employees out of a population of 1,550. The personnel department of the sugar industry provided the employment register for all non-managerial employees. This formed the sampling frame for the survey. Using the register, information was collected from the first and then every tenth employee. In total, a sample of 155 respondents was selected and subjected to interview using a structured questionnaire (See Appendix 5).

Data Collection Technique

Data collection technique consisted of a questionnaire administered to respondents by recruited

research assistants who had initially undergone a brief but intensive training. The principal researchers preferred using a structured questionnaire to an unstructured one, thus presenting every respondent with identical questions arranged in the same order. This method standardised questions and subsequently left no room for interviewers to modify or change questions. It on the other hand, facilitated recording and later the coding of data. Both closed and open questions were asked. However, it should be noted that only information considered relevant to this study has been used.

3.2 Data Processing and Measurement

Data for the study were available to the present researcher in their raw form, as recorded in field questionnaires. Since the principal aim of the Agriculture-Development Inter-relationship Survey was not to obtain information specific to this study, the first obligation was to transfer relevant data to coding sheets. This was done by assigning appropriate numerical codes for various pieces of information, cross-checked several times to ensure accuracy. "Cleaning" of data and measurement of variables

included in the study's theoretical framework is the major concern of this section. These variables include: rate of labour migration, age, family size, income differential, unemployment, distance, education, landlessness and ethnicity.

In-Migration Rate (IMR)

Respondents were asked to state their location of usual residence prior to taking up employment in Mumias Sugar-industry. Whoever crossed a location to acquire employment in the factory is considered a labour migrant in this study. Over 85 percent of the respondents were found to be migrants using this criterion. Expressing actual migrants observed from each of the locations as a proportion of the sample investigated per thousand, forms a measure of in-migration rate (IMR). This corresponds to the mathematical expression:

$$IMR = \frac{M_{ij}}{P_j} .K$$

where,

IMR is the in-migration rate; M_{ij} is the number of migrants from location i to destination j; P_j is the population at destination j, and K is a constant.

Age at Migration

Age in this study is measured using information from two questions. One question collected information on the respondent's age during interview (1983/84), and the other, on year of employment in the Sugar-industry. The reported age at interview less the respondent's number of years worked in the Sugar-industry yields data for age at migration. The assumption here is that migrations only occur after lining up jobs with the Sugar-industry's management. Existing literature indicates that highest propensity for rural-urban migration is at 20-29 age category and that age is positively related to migration. This hypothesis will be tested in the present rural-rural migration study.

Family Size[3]

Family size data are computed from information on the respondent's number of living children during the event of migration. Two categories are formed. The first category refers to heads of households that are having no living children while the second category comprises of those with living children. Studies (Long, 1973; Rempel, 1981) indicate that heads of households with children are less migratory than those without, a finding tested in this study.

Income Differential

This variable refers to monthly monetary gains or losses, over or below those obtainable prior to migration. Two questions, one collecting information on present monthly income and another on previous monthly income were asked. The net difference of responses constitute data for this variable. Two categories of interest emerge from these net differences, one depicting losses and the other gains. The notion that potential migrants are attracted by better wages and salaries (gains) at destination will be tested.

Unemployment Status

Data on unemployment prior to migration was obtained from information collected by a question requiring respondents to state their previous occupation. Treating responses as binary, two categories are formed: those formerly employed and those unemployed. Rempel (1981:84) found unemployment at origin to increase desire to migrate. It's this hypothesis that the present study tests.

Distance

The questionnaire used in the survey does not include a question requiring respondents to estimate distance between their origins and the Sugar-industry. However, an independent measure of distance in road kilometres between the Sugar-industry and district headquarter in which migrants originated was made.[4] Information in Appendix Table 2 shows these data. The inverse association between distance and labour migration is tested in this study.

Education

Education defined as the highest level of formal schooling attained, is divided into two categories. The first category consists of respondents who have never attended school plus those who have only completed primary level of education. It is assumed here that acquisition of primary level of education does not produce enough effect to discriminate the migration behaviour of those without any education. The recent upsurge in school enrollment and rising educational standards in Kenya further makes these people "hunt" for moreless similar jobs. The second category consists of respondents who have completed post-primary

level of education. Using survey data of 1979, Khasiani (1982) found education to positively influence migration dispositions in Kenya. This hypothesis will be empirically verified in this rural-rural migration study.

Landlessness

Measurement of this variable was done using information collected on the amount of land owned by the respondent's family. This is because African customs allow only sons to inherit pieces of land owned by their families. It is further assumed that land inheritance is the only source of land ownership (ignoring purchased lands at market prices). Two categories of responses emerged. First is that of respondents whose families do not own any land, and second, that of whose families own some land. Accessibility to agricultural land was found (Khasiani, 1982) to negatively influence migration disposition as shown in Chapter 11. Implicit in such a finding is the hypothesis predicting that lack of access to land positively influences migration and the study tests this hypothesis.

Ethnicity

This variable was measured using information collected on the respondent's tribe of origin. Careful scrutiny of responses lead to three groups of interest. These groups include: respondents of Luhya origin, Luo origin and neither of Luhya nor Luo origins. The importance of this variable is to measure existing ethnic links between migrants at destination and potential migrants at communities of origin. Such links if strong, are important in enhancing chain migration. The positive relationship between ethnicity and migration is tested in this study.

3.3 Data Analysis

In an attempt to achieve the main objectives of the study, appropriate methods of data analysis have been used. Descriptive methods are specifically used to identify the major characteristics of migrants involved in this rural-rural migration study. In this method, univariate and bivariate descriptive statistics; particularly proportions and cross-tabulations are used. The mean and mode statistics as measures of central tendency are also used.[5] Emerging findings are discussed and compared with those in closely related studies

in order to establish whether or not the present migration study confirms or refutes previous findings.

More rigorous analytical tools are employed to examine the effects of explanatory variables on migration to the study area. Multiple regression attempts to predict the dependent variable (IMR) from a number of independent variables (eight for this study). Multiple correlations are, on the other hand, computed to show the amount of influence each of the eight independent variables has on IMR. Correlation coefficient sign, which is either negative or positive, is used to show the direction of this influence. The F-Statistic test is used to evaluate statistical significance for each of the independent variable.

Computer facilities are necessary in computing regression and correlation coefficients. The ICL SPSS (Statistical Package for Social Science) Multiple regression sub-program which combines stepwise procedure was found very sufficient. The sub-program computes zero-order correlation coefficient, F-Statistic and also the best equation for estimating the dependent variable.[6]

3.4 Limitations of Data and Analytical Techniques

The present study is by no means devoid of shortcomings relating to data and analytical techniques. The data are in certain ways as defective as in the census and other surveys. For various reasons, data on age, income, amount of land owned and the number of living children are usually misreported. One should bear with this shortcoming especially when dealing with data from Africa where culture highly influences answers to questions considered sensitive.

Although it is desirable in research to work with as few categories as possible, data grouping inflates frequencies and this makes graphic representation weak. Further, since some information is lost through categorising of data, conclusions drawn are inconsistent with those of the underlying population. However, it is only categories relevant in testing the set hypotheses that are considered in this study.

The sampling procedure used influences findings and subsequent conclusions about the investigated population. For instance, sampling only male rural-rural migrants should by no means suggest female non-participation in the process; rather, be attributed to the small number

of female factory workers of whom none was selected when the sampling procedure was administered. This demonstrates lack of important demographic data differentiable by the sex of respondents in the study. However, it is not a serious limitation because males are more migratory than females. This is evidenced in Rempel et al (1970) Mbithi and Barnes (1975) and Khasiani (1982). Further, the selected sample size calls for caution as conclusions may deviate appreciably from the true situation. To monitor this shortcoming, findings are compared to those in previous related studies. Any departures do not necessarily impair credibility but rather open an opportunity for explaining the empirical situation.

Relying on data collected at a destination (Mumias Sugar-industry) of migration process may result in drawing conclusions that are inconsistent with those underlying the real situation. Perhaps data from both movers and stayers are more useful in a study such as the present one. However, since events in Mumias are rather recent, the data, inspite of being collected at the destination, are not adversely affected by memory lapse nor change of perception. Further, as in many previous studies, the list of factors considered here is illustrative rather than being exhaustive.

NOTES

1. The on-going survey intends to collect data from South Nyanza, Mumias and Nzoia Sugar Zones in Nyanza, Western and parts of Rift Valley provinces. This survey area covers a total of 67,171 square kilometres. For each sugar zone the survey covers three distinct schemes: the agro-industry complex, out-grower schemes and the outer rings bordering the sugar schemes. The vastness of the area necessitated adoption of a Multi-round survey. For purposes of this study, only data obtained from Mumias agro-industry complex does suffice.

2. Two distinct "Job Categories"; namely, lower job category and higher job category were identified by the team of researchers. The lower category consisted of employees in Mumias agro-industry designated as either clerks, office messengers, drivers, mechanics, plumpers, or as labourers. The executive and professional personnel comprised the higher job category.

3. The Kenya Fertility Survey of 1977/78 measures family size using the respondent's number of living children. A similar measure is adopted in this study. The first category of family size considered here includes respondents who were either single or married but were not having children during migration.

4. A similar measure was used in Oucho (1981).

5. Measures of central tendency are confined to only continous independent variables considered. These include: age at migration, income differential, family size and distance. Categorical variables include unemployment, education, landlessness and ethnicity.

6. Computation of the F-Statistic is given by the formula:

$$F = \frac{R^2/K}{(1-R^2)/(N-K-1)}$$

where,

R^2 is the explained portion of the regression equation, K is the number of independent variables and N is the number of cases.

A variable is statistically significant if computed F-value equals or exceeds the critical table F-value at K and N-K-1 degrees of freedom and vice-versa. In this study, variables are tested at both 95 and 99 percent significance levels.

CHAPTER FOUR

RESULTS AND DISCUSSION

This chapter is concerned with the analysis of factors influencing migration to Mumias Sugar Complex. Assumptions underlying the analysis are presented in chapter Two while the techniques employed are discussed in the previous chapter. In order to effectively present this analysis, the present chapter is divided into two sections. The first section presents and discusses the characteristics of migrants involved in this study. The section is less rigorous and uses mainly proportions and cross-tabulations to highlight the association of each variable with migration. In the second section, a model that explains intra-rural migration under study is presented. This model is based upon empirical multivariate regression and correlation.

4.1 NATURE AND PATTERN OF MIGRANTS

As a basis for analysing why people have moved from various locations into Mumias Sugar factory, it is necessary first to describe the nature and characteristics of migrants. Such description includes discussion

on the magnitude of migration flows and distribution of factors assumed to influence migration in this study.

4.1.1 The Migration Flow and Migration Field

Migrants in this intra-rural migration study originated from 59 locations found in 16 of Kenya's 41 districts. Over 70 percent of these migrants usually reside in Western Province. About 20 percent originated from Nyanza Province while the remaining 10 percent originated from other provinces (See Appendix Table 4). Kakamega District results alone accounts for 55.2 percent of the total migrants followed by Bungoma, which accounts for only 11.2 percent. South Nyanza, Siaya, Busia, Kisumu, Trans-Nzoia, and other districts account for 9.0 percent, 6.7 percent, 4.5 percent, 3.7 percent, 3.0 percent and 6.7 percent respectively. This disproportionate migration flow is explained by the location of Mumias factory in Kakamega district. The potential labour migrants from peripheral locations obtain quick and accurate information about employment opportunities in the factory. Subsequently, unlike people from outside the district, they end up securing jobs which are offered on a "first-come-first employ" basis.

Potential migrants are usually faced with a set of choices involving various options, including that of not moving at all (Rottemberg 1977). Nonetheless, the determinants of labour migration into Mumias Sugar factory are assumed to broadly include demographic, socio-economic as well as cultural-cum-spatial factors which are subsequently investigated in this chapter.

4.1.2 Demographic Explanations

As was seen in the literature review, several migration studies have found demographic variables to be important determinant factors in labour migrations. The present study has considered two such factors, namely; age and family size.

a) Age at Migration

Findings in this study indicate an age structure of the sample investigated which tends to depict a characteristic feature of respondents in their thirties and above during interview (See Table 4.1). When considering age at migration, a rather low proportion of workers migrated at 15-19 year category, a buldge (61.9 percent) at ages 20-29 and a sharp decline at age 40 and above. A mean age at migration

of 28.5 years with a mode age of 26 years and an age-range of 19-44 years is observed for the sample investigated.

The highest propensity to migrate is at age group 25-29 years. This contradicts Caldwell's (1969) and Rempel's (1970) rural-urban migration studies which noted 15-19 and 20-24 year age categories respectively. The finding, however, confirms Oucho's (1981:188) study which found that rural-rural migrants are older than their rural-urban counterparts.

b) Family Size

Rural-urban migration studies (Long, 1973; Caldwell, 1968, 1970) have found that heads of households without children are more labour migratory than those with children. Investigating this finding, data reported in Table 4.1 below indicate that about 40 percent of the respondents did not have children, against 60 percent that was having children during migration. This suggests that a majority of rural-rural migrants move while having children unlike their rural-urban counterparts reported in previous studies. On average the investigated sample had 2.8 children compared to 3.18 children observed in the Kenya Fertility Survey of 1977/78.

TABLE 4.1: PERCENT DISTRIBUTION OF THE SAMPLED MIGRANTS BY AGE, AGE AT MIGRATION AND FAMILY SIZE.

Age at Migration	Family Size (No. of children)					Age at Interview *
	Zero	1-5	6+		%	
Under 20	100.0	-	-	100	(2.2)	-
20-24	76.9	23.1	-	100	(29.1)	6.0
25-29	32.2	45.5	25.0	100	(32.8)	30.0
30-34	22.3	50.0	25.0	100	(14.9)	20.1
35-39	6.3	50.0	43.7	100	(11.9)	23.0
40+	8.3	25.0	66.7	100	(9.0)	20.9
%	(39.6)	(37.3)	(23.1)		(100.0)	

* See Note 1

Demographic findings reported above indicate that age and family size have a direct relationship between themselves and migration to Mumias Sugar Complex. For instance, finding a majority of migrants as having children would only be explained by the migrants' age-structure. As observed above, the highest propensity to migrate in this study is at age group 25-29 years, implying that the migrants are older than their rural-urban counterparts. In African context, age has a direct relationship with marriage and subsequently with

family size. Data presented in Table 4.1 clearly show this relationship as high percentage distributions for respondents with children correspond to higher age groups and vice-versa. It would thus be deduced that a combination of age and family size levels jointly influence rural-rural migration under study directly.

4.1.3 Socio-economic Considerations

In migration research, a wide range of socio-economic factors have been found crucial in determining the act of migration. The present study considered four such factors: income differential, unemployment, education and landlessness.

a) Income Differential

Income differential in the form of attainable monthly salaries and revenues in Kenya Shillings is both a push and pull migration factor in this study. As assumed, most of the labour migrants attained positive changes in their monthly incomes after moving to Mumias Complex. Findings (Appendix Table 1) show that 91.8 percent of the migrants are "better-off" while a small proportion (8.2 percent) are "worse-off". These net differentials are concentrated in the range of K.Shs.501-1,000 (the modal class interval) with K.Shs.

550.00 as the mode and K.Shs.736.50 as the mean.

Explanation for the labour migrants who became "worse off" (in terms of monthly monetary renumerations) but yet opted to migrate to Mumias is partly given by any of the main reasons shown in Table 4.2 below. Respondents were required to provide the major reason for taking up a job in Mumias instead of the previous (if any) one. Indeed, of the 8.2 percent that received negative changes, one quarter had been dismissed and consequently were unemployed at the time of migration. Three in every ten were temporarily employed and desired permanent jobs, one-fifth wanted to work closer home while one-tenth never stated the prime reason for leaving their previous employment. On the other hand, because of the restrictive definition and measurement of the differentials, migrants appearing "worse off" would in reality be "better-off". This is because the variable has ignored the migrants' other income generating activities beside monthly salaries.[2] It would be possible that incomes accruing from other activities of the migrant workers surpass those from monthly salaries.

TABLE 4.2: DISTRIBUTION OF THE MIGRANTS' MAIN REASON FOR LEAVING PREVIOUS EMPLOYMENT TO TAKE UP EMPLOYMENT IN THE FACTORY

Reason	Responses		
	Number	Percent	Cumulative Percent
Low Salary	26	19.4	19.4
Dismissed	19	14.2	33.6
Far from home	15	11.2	44.8
Temporary job	8	6.0	50.8
Not Applicable *	48	35.8	86.6
Not stated	8	6.0	92.6
Others	10	7.4	100.0
TOTAL	134	100.0	

* the category comprises migrants who had never been employed prior to migration. This includes those formerly in school.

b) Unemployment

Information on employment status prior to migration provides a crude measure of unemployment level of the migrants investigated. Findings in this study indicate that one-half of the migrants were

unemployed at the time of migration. Four in every ten migrants were either self-employed or employed for wages while one-tenth were farming at the time of migration (see Appendix Table 1). The proportion of unemployed migrants in this study is lower than that observed in Rempel (1981:85). In his study, Rempel found that 62.9 percent of the migrants were unemployed prior to migration into eight of Kenya's major urban centres. The proportion in his study must have been heavily inflated by the large volume of school-leavers (51.9 percent) migrating into Kenya's urban centres in contrast to 25.6 percent that migrated into this rural-based Sugar-industry in Mumias. Other studies have confirmed the urban destination bias held by migrant school-leavers (Mitchell, 1969; Sabot, 1972; Owuor, 1974; Khasiani, 1982:100).

c) Education

The data in this study reveal that 91 percent of the migrants investigated had had some years of formal education (See Appendix Table 1). Over one-half had completed primary education or at least seven years of formal education.[3] Four in every ten migrants had attained post- primary education, while, one-tenth

had never been to school at all. These proportional distribution corresponds to Rempel's (1981:78-9) result where 88 percent of his rural-urban migrants had some formal education while only 12 percent had none. Mbithi and Barnes' (1975:160) finding that rural-rural migrants are characterised by very poor education and training is not confirmed. This is mainly because educational attainment in the country has improved with time and young migrants are better educated than older ones. Educational attainment beyond primary level in this study peaks at age 20-24 years. This reflects the upsurge in school enrollment following the government's scrapping-off of primary school fees and enormously subsidising training institutions.

d) Landlessness

Information on the total number of hectares of land owned by the migrant's family provide a measure of landlessness in this study (See Appendix Table 1). Only a small proportion (26.9 percent) of the investigated migrants were found to be landless. A majority (61.2 percent) have 0.405 to 4.050 hectares while only 11.9 percent have more than 4.05 hectares of land.[4] This proportion of landless migrants falls far below the 69.0 percent observed in Rempel's (1970) rural-urban migration study in the country.

However, the present study's finding falls just above the 17.8 percent observed in a recent study by Khasiani (1982) on migration disposition in Kenya. The result corroborates earlier findings that landlessness in Kenya is gradually being wiped out. Apart from the government's efforts to resettle her population, several people have purchased pieces of land at the current market prices.

Socio-economic characteristics of migrants discussed above would have a vicious effect on migration decision-making process to Mumias Sugar Complex. The main economic goal for most potential labour migrants has been to gain higher incomes after migration. Destinations must therefore offer higher monthly incomes as observed in this study. On the other hand, educational levels of migrants does influence renumerations because occupations and salaries are usually directly related to one's education. This makes it inevitable for potential migrants to evaluate their education against occupations available at prospective destinations. It is only after such an evaluation that potential migrants would be assured of higher incomes. However, Mumias Sugar Complex requires both skilled and unskilled labour force, hence absorbing less and more educated jobseekers. This unique phenomenon

enables the Sugar Complex to employ workers without any job experience. It is also for this reason that socio-economic findings reported above have indicated one-half of the labour migrants to Mumias Complex as previously unemployed. Thus, the socio-economic findings discussed above are of much interest if one is to consider reasons underlying rural-rural migration in contemporary Kenya.

4.1.4 Cultural-cum-Spatial Factors

Previous migration studies have shown that spatial as well as cultural factors are equally important in influencing the act of migration. Two such factors: distance and ethnicity are investigated in this study.

a) Distance[5]

Distance has been interpreted as a deterrent factor to the act of migration. In the present study, a majority of the respondents are short-distance movers (See Appendix Table 1). 69.4 percent of the investigated sample usually reside in localities situated within 50 kilometres from the destination. A small proportion (of about 30 percent) usually reside in

localities situated over 50 kilometres. This implies that the percentage distribution of migrants into Mumias Complex declines with distance.

b) Ethnicity

Ethnicity has been found to influence the act of migration in previous migration studies (Little, 1959; Gulgler, 1971; Mbithi and Barnes, 1975; Huntington, 1974; Oucho, 1981). This is through its role on information flow about employment opportunities as well as provision of food, shelter and clothes until the new migrants are adapted to the new environment. In the present study, migrants of Luhya ethnic group dominate the migration into Mumias Sugar Complex, comprising of 70.9 percent while the Luo (20.1 percent) are a distant second. Other tribes - the Gusii, Teso, Meru, Kalenjin, Digo and Kikuyu account for a mere 9.0 percent (See Appendix Table 1). The fact that people of Luhya ethnic group occupy the area surrounding Mumias factory explains their preponderance in the study area.

Findings of the cultural-cum-spatial variables indicate a direct relationship between the two variables considered in this study. Hence, finding

that 70.9 percent of the migrants are of Luhya origin corroborates with the 69.4 percent that originate from locations situated within 50 kilometres from the destination. This corroboration is justified because the area around Mumias Sugar Complex is dominated by people of the Luhya ethnic group.

4.2 A MODEL OF RURAL- RURAL MIGRATION

This section attempts to analyse the data using Multiple regression analysis. Unlike rural-urban migration studies, very few rural-rural migration studies have presented models to explain this migration component. The works of Matingu (1974) and Oucho (1981) remain the only studies in Kenya that have made an attempt along this line of interest. Thus, the need for studies explaining intra-rural migration in contemporary Kenya cannot be overemphasized.

4.2.1 Specification of the Model

Eight explanatory variables assumed to influence labour migration to Mumias Sugar Complex are initially considered in this intra-rural migration model. These include the variables upon which the foregoing discussion has been based and in-migration

rate is treated as the dependent variable.[6] Precisely, the initial Model is specified as:

$$\sum_{i=1}^{N=59} \frac{M_{ij}}{P_j} = f(A_i, F_i, Y_{ij}, Ed_i, L_i, D_{ij}, E_{ij}, U_{ij}, e)$$

where,

$\frac{M_{ij}}{P_j}$ = Migration flow from origin i as a proportion of the sample population at destination j.

A_i = Age of migrants from origin i, 1 if $\geq$ 30 years, 0 if $\leq$ 29 years.

F_i = A measure of family size for migrants from origin i, 1 for those with children, 0 if otherwise.

Y_{ij} = A measure of income differential at origin i in relation to the destination j, positive if higher at j than at i, negative if otherwise.

U_{ij} = Employment status of migrants from origin i encountered at destination j, 1 if employed, 0 if otherwise.

Ed_i = Highest educational level attained by migrants from origin i encountered at destination j, 1 if post-primary education, 0 if primary or none.

L_i = Land ownership by migrants from origin i encountered at destination j, 1 if owning some land, 0 if otherwise.

D_{ij} = Geographical road distance in Kilometres between destination j and the district headquarters of the origin i.

E_{ij} = Ethnic group of migrants from origin i, 1 if Luhya, 2 if Luo and 0 if others.

e = Random error

A priori, it is hypothesized that: income differential, unemployment, education, landlessness, age and ethnicity would have positive effects on the rate of labour in-migration. Road distance and family size are, on the other hand, hypothesized to have an inverse effect on migration.

4.2.2 Regression Results

Multiple regression results shed light on the effect of the selected demographic, socio-economic and cultural-cum-spatial variables on In-migration Rate (IMR) to Mumias Sugar Complex. Table 4.3 below summarizes these results. It shows computed values for simple R, R square, B-value and F-statistic at respective degrees of freedom. Results indicate that distance, education and ethnicity have negative effects; while income differential, landlessness, age, family size and unemployment have positive effects on migration.

Critical F-statistic used to test for significance indicates that all variables (except unemployment) appearing in the regression equation are statistically significant at both 95 percent and 99 percent levels. Unemployment is significant at only

99 percent level while family size is insignificant. This by no means suggests that family size is not important in rural-rural migration. Among factors influencing migration most in this study are distance, education and landlessness. Details of the results can now be discussed according to the three broad categories.

a) Demographic Variables

In this study, it was initially hypothesized that age has a positive effect on migration. Considering the regression results reported in Table 4.3, AGE has a similar positive effect of .130 on migration to Mumias Sugar Complex. This finding thus supports the initial hypothesis, implying that migration to Mumias Sugar-industry increases with the migrant's age. The results further indicate that AGE increases the explained variations in the dependent variable by 0.45 percent (Appendix Table 3). It is statistically significant at both 95 percent and 99 percent levels with computed F-value of 4.66 and 5,53 degrees of freedom. The finding confirms Khasiani's (1982) study which found older persons more favourably disposed to migration in Kenya. Rural-rural migration studies have also indicated that older persons dominate in such migration process (Matingu, 1974; Monsted and Walji, 1978; Oucho, 1981).

TABLE 4.3 : RESULTS OF MULTIPLE REGRESSION ANALYSIS

Variable	Simple R	R Square	B-Value	F-Statistic	DF
Distance (DIST1)**	.42251	.17851	.25583	12.386	1,57
Education (EDUCT)**	-.25685	.26687	-.18924	10.192	2,56
Income Differential (INDIF)**	.17397	.28325	.11643	7.245	3,55
Landlessness (LANDO)**	.10779	.30447	.08737	5.909	4,54
Age (AGE)**	.13030	.30532	-.02109	4.659	5,53
Distance (DIST2)**	-.31266	.30577	.02522	3.817	6,52
Ethnicity (ETHNC)**	-.21275	.30627	-.01813	3.217	7,51
Unemployment (UNEMP)*	.26133	.30653	.01111	2.763	8,50

R^2 =30.65

** Variable whose coefficients are statistically significant at both 95 and 99 percent levels

* Variable whose coefficients are statistically significant at 99 percent level.

DF Degrees of freedom.

The other demographic hypothesis sought to investigate the assumption that heads of households with children are less migratory than those without. Family size in this study is found to have a positive effect of .241 on migration, thus not supporting the initial hypothesis. This implies that heads of households with children are more migratory to the study area. It is however statistically insignificant but its importance in rural-rural migration need not be emphasised (Appendix Table 3).

b) Socio-economic factors

Income differential (INDIF), as a socio-economic factor is assumed to have a direct positive effect on migration. The findings support this hypothesis with INDIF having a positive effect of .174 on migration. It is statistically significant at both 95 percent and 99 percent levels with computed F-value of 7.25 and 3,55 degrees of freedom. This variable raises the explained proportion of the regression equation by 1.6 percent (Appendix Table 3). This implies that income in Mumias Complex is a migration pull factor and confirms previous studies including: Ladinsky's (1967) in United States, Greenwood's (1971) in India, Rempel's (1981) in Kenya and Oucho's (1981) also in Kenya.

The hypothesis that unemployment (UNEMP) at origin is positively related to migration is supported in this study. Table 4.3 shows a positive effect of .262 for UNEMP on migration. It is, however, statistically significant at only 99 percent level with an F-value of 2.76 at 8,50 degrees of freedom. The finding implies that unemployment at origin is a migration push factor in this rural-rural migration study. Previous rural-urban migration studies (Greenwood, 1978; Owuor, 1974; Todaro, 1976) have found similar positive effects.

Education (EDUCT), the other socio-economic variable considered in this study, was hypothesized as having a direct positive effect on migration. Increasing the explained proportion of the dependent variable (IMR) by 8.8 percent, EDUCT has a negative effect of -.257 on migration. It is statistically significant at both 95 percent and 99 percent levels with computed F-value of 10.19 and 2,56 degrees of freedom. The finding implies that less educated people migrate to Mumias Sugar-industry, subsequently not supporting the initial hypothesis.

Job selectivity among post-primary graduates who usually desire white-collar rather than agriculturally

oriented jobs is one possible explanation to this unexpected finding. Sometimes this selectivity is so acute that several post-primary graduates end up taking jobs yielding lower monthly returns. Secondly, primary school-leavers, or rather semi-educated people, are usually subjected to increased difficulties in obtaining urban jobs relative to rural jobs. The negative effect of education on migration found in this study confirms previous rural-rural migration studies (Owuor, 1974; Oucho, 1981).

A priori, it was hypothesised that landlessness (LANDO) is positively related to migration. Findings (reported in Table 4.3) support this hypothesis with LANDO having a positive effect of .108 on migration. This implies that landless people migrate more to Mumias Sugar Complex. The variable raises the explained variations in IMR to Mumias by 2.1 percent and is statistically significant at both 95 percent and 99 percent levels.

c) Cultural-cum-spatial Factors

In this study, the negative effect of distance on migration is tested using two sub-hypotheses. The first sub-hypothesis (DIST1) assumes that people living in locations situated within 50 kilometres from

Mumias Sugar-industry are more migratory to the Sugar Complex. Results (reported in Table 4.3) support this hypothesis because DIST 1 has a positive effect of .423 on migration and is statistically significant at both 95 percent and 99 percent levels. It explains about 17.9 percent of the variations in IMR to Mumias Complex.

The second sub-hypothesis (DIST2) predicts that people living in locations situated over 50 kilometres from Mumias factory are less migratory to the Sugar-industry. Findings indicate that DIST2 has a negative effect of -.313 on migration, thus supporting the initial sub-hypothesis.

Findings from these two sub-hypotheses imply that the number of migrants to Mumias Sugar Complex declines as distance between location of origin and destination increases. This supports the grand hypothesis predicting a negative effect of distance on migration. Hence, the distance-migration relationship found in this study confirms what previous rural-urban and rural-rural migration studies have found (Greenwood, 1974; House and Rempel, 1980; Oucho, 1981).[7]

Ethnicity (ETHNC), a cultural variable purported to measure the migrant's links with their communities of origin is hypothesized to be positively related to migration. The regression results (reported in Table 4.3) indicate ETHNC to have a negative effect of -.213 on migration, thus not supporting the initial hypothesis. The finding stands in direct contrast to the 70 percent migrants of Luhya origin observed in the study.

In sum, the results presented to this point lend considerable support to the proposed intra-rural migration model. It leads to a final empirical regression equation expressed as:

$$\frac{M_{ij}}{P_j} = A + B_1 DIST + B_2 EDUCT + B_3 INDIF + B_4 LANDO + B_5 AGE + B_6 ETHNC + B_7 UNEMP + E .$$

The regression coefficients reported in Table 4.3 and Appendix Table 3 can be substituted for notations in the above equation. Subsequently, a further discussion on the equation is not of absolute necessity.

As indicated earlier, the basic derivation of this model is similar to that of Oucho (1981) inspite of clear points of departure. For instance,

Oucho's model relates migration to population at origin while the present study relates to population at destination. This leads to M_{ij}/P_i for the former and M_{ij}/P_j for the latter. Further, the present study incorporates fewer variables including demographic factors ignored in Oucho's (1981) study. These points of departure should be appreciated especially when one considers the performance of the present model. For example, unlike Oucho's model which explains almost all the variations in the migration studied, the present's un-explained variations account for about 70 percent. Rempel's (1981:66-8) model also has a relatively large proportion of unexplained variations (over 50 percent) in his study of female migration into Kenya's eight major towns. Rempel entered 16 variables in his model compared to the seven appearing in the present study. These comparisons clearly demonstrate the complexity of studying determinants of internal migration.

NOTES

1. The age structure of the working population has been observed using the reported exact age of the respondent during interview. On the other hand, age at migration is computed as the exact age of the migrant during the year he took up employment in Mumias Sugar-industry. The latter is most relevant to the present study as the former only portrays ages at interview rather than during migration.

2. There are difficulties in defining and measuring income differentials (Knight,1972) because of problems in:

   a) Measurement of the relevant income at origin;

   b) Measurement of the relevant income at destination; and

   c) Comparing the two incomes.

   In the present study, calculation of net present and previous monthly income differences provide a crude measure of income differential. This means, incomes accruing from other income generating activities of the migrants were ignored. Such activities include: petty businesses, illegal businesses (smuggling, brewing etc.) and farming.

3. Education system in Kenya has been changing over time. An eight-year primary school education system was adopted until 1967 when a seven-year system was preferred. This system was, however, given up at the end of 1984 in preference to the current 8:4:4 education programme. The programme requires an eight-year primary education, four years of secondary and another four of University education.

4. One acre of land is equivalent to .405 of an hectare. The present study therefore considers three categories of land ownership: those landless, owning 1-10 acres and over 10 acres.

5. Data for this variable were obtained by measuring distance in road kilometres between Mumias agro-industry and district headquarters from which migrants are purported to have moved from. A similar measure was found plausible in estimating the approximate distance migrants into Kericho Tea Estates/Factories covered in Oucho's (1981:140-5) rural-rural migration study. The data obtained are presented in Appendix Table 2.

6. In migration research, the rate of migration from area i to area j is treated as a dependent variable, dependent upon other independent variables. Some of the studies which have used a migration rate as a dependent variable include: Lowry (1966) in United States, Rogers (1968) in United States, Speare (1969) in Taiwan, Okatcha (1979) in Kenya, Rempel (1981) in Kenya and Oucho (1981) in Kenya. In this study, a rate is similarly used and migration is assumed to gravitate from several "less developed" locations to a "more developed" location where Mumias Complex is situated.

7. House and Rempel (1980:35) computed -.57 correlation coefficient for Kenya while Greenwood (1971:149) computed -.609 for India in rural-urban migration studies. Oucho (1981:171) on the other hand computed a correlation coefficient of -.416 in his rural-rural migration study in Kenya.

CHAPTER FIVE

SUMMARY, RECOMMENDATIONS AND CONCLUSIONS

This chapter discusses three main issues. First, it presents a summary of the preceeding chapters. Second, it discusses some of the implications emerging from the study's major findings. Finally, the chapter makes some fundamental recommendations that would be useful to policy makers at either regional and/or national levels. Opportunities for further research on the problem under study are also highlighted.

5.1 Summary and Conclusions

Studying intra-rural migration is a welcome departure from the more studied rural-urban migration. Since most migration is labour oriented, urban areas until recently have remained the most visible centres of job opportunities. This fact has lured migration researchers to concentrate on examining rural-urban migration. However, with the current swing of the pendulum of development toward district focus, some rural areas have now become centres of visible job opportunities, attractive to potential rural-urban migrants.

The present study was focussed on Mumias Sugar Complex in Western Kenya where an impressive rural-based Sugar-industrial development emerged in the early 1970s. This modern sector has ushered in an intra-rural migration process between underdeveloped rural locations (mainly in Western Kenya) and the Sugar-industry to which migrants have gravitated.

Mumias Sugar-industry is a Kenya government sponsored project whose financing was arranged through a loan from the British government in 1971. During the period 1983/84, a team of multi-disciplinary researchers from the University of Nairobi carried a Population-Agriculture Inter-relationship Sample Survey on workers in the industry. This survey formed the data-bank for the present study. Both descriptive and multiple regression methods were utilized in the analysis of data.

From the on-set, the study had two principal objectives:

i) to uncover those factors that determine labour migration from less developed rural locations to Mumias Sugar Complex, and

ii) to uncover major characteristics of migrants involved in the migration process under study.

It was conceptualized in this study that the act of migration to Mumias Sugar Complex is indirectly influenced by demographic, socio-economic and cultural-cum-spatial variables through other several direct variables. A total of eight direct variables namely; age, family size (demographic factors); income differential, unemployment, landlessness, education (socio-economic factors) distance and ethnicity (cultural-cum-spatial factors) were considered to influence migration. These variables (as was seen in Chapter 2) have influenced migration in previous studies, regardless of the migration stream involved.

Findings of the present study only portrays empirical evidence, given the data at disposal and analytical tools employed in analysing the data. It is clear from the previous chapter that rural development/industrialization in Mumias Sugar Complex has ushered in a substantial proportion of economically active population from lesser developed rural locations. These labour migrants tend to exhibit similar demographic, socio-economic and cultural-cum-spatial characteristics.

Findings reported in the previous chapter indicate that the migrating population is composed mainly of adult males aged 20-29, with primary school education, having at least a child, earning a lower previous monthly income, owning some land, having no previous wage employment, covering short distances ($\leq$ 50 kms) and of Luhya origin. These findings considerably confirm previous rural-rural migration studies (Matingu,1974; Monsted and Walji, 1978; Oucho, 1981) that the migrating population is mainly older, less educated, having children (married) and usually cover short distances. However, there is clear evidence in Oucho (1981), as is in the present study that recent rural-rural migrants are younger, better educated and thus well-prepared for challenges than their colleagues in earlier rural-rural migration studies. This implies that recent rural-rural migrants are moreless similar to their rural-urban counterparts, whom studies (Rempel, 1969, 1981; Harris and Todaro, 1970; Owuor, 1974) have found to be young (15-24 years), well-educated and single or newly-married males who usually leave their wives at home. Because of their high level of education, they tend to cover long distances and compete effectively in well-paying jobs.

Multiple regression results of the effects of independent variables on migration were consistent with initial hypotheses. The demographic hypothesis that age has a positive effect on migration was supported by the data, confirming Khasiani's (1982) study. Family size was found to have a positive rather than the assumed negative effect on migration. This implies that the initial hypothesis was rejected and heads of households with children were found more migratory in this study.

Three out of the four socio-economic hypotheses were supported by the data. As was assumed, income differential, unemployment and landlessness were found to have positive effects on migration to Mumias Sugar-industry. This implies that migrants had better monthly incomes after migrating to Mumias Sugar-industry and that unemployment and landlessness at locations of origin are strong migration push factors in this study. These results confirm Oucho's (1981) rural-rural migration study in Kericho Tea Estates/Factories in Western Kenya. Having higher education was found to have a negative rather than the assumed positive effect on migration. Appendix Table 1 clearly shows a preponderance of primary

school-leavers in this rural-rural migration process. One possible explanation is that primary school leavers are subjected to difficulties in obtaining urban jobs relative to rural jobs which are looked-down-upon by post-primary graduates.

Finally, the cultural-cum-spatial hypothesis predicting that ethnicity has a positive effect on migration was not supported by the data. Ethnicity was rather found to have a negative effect on migration. Distance, a variable reknown for being a deterrent factor to the act of migration had a negative effect on migration. The finding supports Oucho's (1981) rural-rural migration and House and Rempel's (1980) rural-urban migration studies in Kenya.

5.2 Policy Implications

A development strategy that is being emphasised in contemporary Kenya is the "District Focus for Rural Development" (DFRD) Policy which aims at shifting development/industrialization to rural areas. In an attempt to arrest existing rural-urban economic imbalances that culminate to the disturbing rural-urban migration, DFRD policy is quite an ideal development

strategy. An empirical response to the implementation of DFRD policy is migration from lesser developed rural areas to those relatively developed (e.g. case under study). Such rural-rural migration processes carry socio-economic and demographic implications in both the rural areas of origin and destination as findings of this study imply.

The demographic finding indicating a preponderance of adult able-bodied population migrating from less developed rural areas would further underdevelop such areas at the expense of the destination. This is because the migrating population consists of an age group that is energetic, most innovative and adoptive to new methods of farming, the dominant rural economic activity. Those left behind, being mainly young and less progressive old folk, have little energy required in developing their immediate economy. The situation is aggravated when migrants expend their maximum brawl to develop an economy outside their origin only to return home past the peak of productive age. Also, monetary remittance (if any) is usually not directed towards agricultural development. The other demographic finding that head of households with children have a positive effect on

migration results in a preponderance of female-headed households at the origin. This affects socialization of children and delays implementation of development decisions due to the father/husband absenteeism. In African context, females experience structural-blockage forcing them to constantly consult their migrant husbands in decision-making process.

Socio-economic findings that education and unemployment have negative and positive effects on migration respectively affects labour productivity at destination, particularly, in occupations that require more than one's physical strength. This is because migrants have a low educational level and are without job experience. However, younger migrants being of post-primary education indicate potential for future draining the rural locations of origin of skills and talent and consequently potential for economic development. Further, higher monthly salaries enjoyed after migration to the sugar-industry implies higher standards of living among migrant families. Accompanying these higher salaries at developed rural destinations is the possibility of landless migrants owning land purchased at the market prices. The latter ensures upward social mobility because landless families are discriminated against among African societies.

Finally, the cultural-cum-spatial finding that a majority of migrants to the Sugar-industry are of Luhya origin indicate a cohesive labour force in terms of ethnic composition. This would result in less politicking and conflicts along ethnic lines, a factor that would improve the industry's output and its general performance. Rural-rural migration in this study being short-distance movement is likely to result in simple commuting between the worker's homes and their working places. This may have an impressive cut-down on the cost of establishing similar rural development points elsewhere since housing costs may not necessarily be incurred.

5.3. Recommendations for Policy and Research

If an efficient policy aimed at retaining labour population within rural areas was to be made, the country's resources should first be directed towards development of rural economic projects such as the one under study. This will correct an existing rural-urban economic imbalance that prompts massive rural-urban migration in the country. The ever-widening income gap between the two regions should also be checked as a matter of urgency. This recommendation calls for relative increases in income/salaries earned

in "developed" rural areas, thus bridging the existing gap to some "reasonable" extent. A policy that does not take account of rural-urban income discrepancy is bound to have little success. Further, the current 8:4:4 educational system should fully prepare youths for rural-based agricultural jobs (the backbone of Kenya's economy) rather than the white-collar urban jobs. This may be possible by emphasizing practical agricultural education to the youth in the hope of applying the subjects after school.

Migration, and rural to rural component in particular, should be given adequate consideration in the implementation of DFRD policy. In the past, regional planners have only emphasized the inter-play of fertility-mortality demographic dynamics with rural development. It is time this approach was widened so as to include the influence of migration on such development projects. This recommendation calls for inclusion of migration questions in Census interview schedules to collect information beyond "place of birth" and "place of enumeration". Migration surveys intended to collect data on internal migration should be given priority in order to have an adequate migration data-bank in the country.

This study analysed only a few variables identified as the main determinants of rural-rural migration. This list is illustrative rather than exhaustive. Since the economy is characterized by economic imbalances, the role of economic factors is indisputable. However, there is need to investigate the exact role of non-economic factors in the act of rural-rural migration. A wide range of psychological, demographic and socio-cultural factors may, infact, be as important as economic forces. Among those not investigated in this study include marital status, sex, family status, home ownership, occupation and religion.

Inferences in this study were made based upon sample data collected at the destination of migration. There is need for a research methodology that incorporates migration information collected from both the origin and destination. This methodology should be adopted regardless of the migration process under study. Among other things, it would yield more reliable and easily cross-checked data about migrants at the destination and non-migrants at the origin.

There are opportunities for carrying research on the impact of rural-rural migration in both rural areas of origin and destination. Finding that migrants exhibit similar socio-economic and demographic characteristics raises the desire to investigate their economic impact in the two poles of migration. There is need to establish whether or not rural-rural migrants, like their rural-urban counterparts maintain contacts with communities of origin, whether or not they send remittances and how often they visit their home areas. This underscores need to research on migration and underdevelopment of rural areas of origin at the expense of those destinations.

The recommended policies and opportunities for further research are likely to result in a comprehensive analysis of rural-rural migration in Kenya. Such an analysis is useful for rural development planning requirements. For example, policies addressing the problem of rural out-migration would be based on empirical studies of this nature. Most of the repressive rural out-migration policies that have been imposed in developing countries have failed as a result of inadequate knowledge of causes of this out-migration.

APPENDICES

APPENDIX TABLE 1: PERCENT DISTRIBUTION OF LABOUR MIGRATION BY AGE AT MIGRATION, FAMILY SIZE, INCOME DIFFERENTIAL, PREVIOUS OCCUPATION, DISTANCE, EDUCATION, LANDLESSNESS AND ETHNICITY.

	Variables	Percent	No.
1.	Age at Migration		
	⩽ 29 years	64.0	86
	⩾ 30 years	36.0	48
2.	Family Size		
	Zero children	39.6	53
	With children	60.4	81
3.	Income Differential		
	Negative change	8.2	11
	Positive	91.8	123
4.	Previous Occupation		
	In school	25.4	34
	Employed for wages	27.6	37
	Self-employed	9.0	12
	Farming	11.9	16
	Unemployed	26.1	35
5.	Road Distance (Kms)		
	Under 50	69.4	93
	Over 50	30.6	41
6.	Education		
	Primary & None	60.5	81
	Post-primary	39.5	53

APPENDIX TABLE 1 (CONT.)

	Variables	Percent	No.
7.	Land Ownership (hectares)		
	Landless	26.9	36
	0.405-4-050	61.2	82
	Over 4.050	11.9	16
8.	Ethnicity		
	Luhya	70.9	95
	Luo	20.1	27
	Others	9.0	12

APPENDIX TABLE 2: ROAD DISTANCES BETWEEN MAJOR MIGRATION CENTRES AND MUMIAS SUGAR FACTORY *

MUMIAS																
32	KAKAMEGA															
26	42	BUNGOMA														
24	56	65	BUSIA													
124	92	90	155	ELDORET												
141	109	90	224	69	KITALE											
222	190	349	208	224	293	HOMABAY										
202	170	294	229	265	283	55	KISII									
82	50	92	109	122	160	102	123	KISUMU								
60	95	86	66	167	176	168	189	66	SIAYA							
162	130	196	186	161	230	159	104	90	146	KERICHO						
91	59	182	172	42	111	200	181	96	132	86	KAPSABET					
532	500	526	516	377	446	489	434	410	476	330	400	KERUSOYA				
452	420	486	476	337	406	419	394	370	436	290	360	40	NYERI			
509	477	543	533	394	463	506	451	327	493	347	417	100	136	MERU		
795	763	829	819	680	749	792	737	713	679	633	703	476	512	523	MUNGANU	
936	904	911	960	821	890	933	878	854	844	774	844	617	653	769	294	KWALE

* The district headquarters specified relate to those districts from which migrants in Mumias originated.

Source: Survey of Kenya and the Ministry of Tourism and Wildlife (Tourist Map Kenya).

APPENDIX TABLE 3: STEPWISE REGRESSION RESULTS OF LABOUR MIGRATION TO MUMIAS SUGAR INDUSTRY

Variables in the Equation							Variables Not in the Equation	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Step	Variable	Multiple R	Standard Error	R Sq	Rsq Change	Regression Coefficient	Std Error B	Variable	Partial
1	DIST 1 **	.4225	.2641	.1785	.1785	b =.2429 DIST 1	.0690	AGE	.0665
								FASIZ	.1937
								INDIF	.1107
								LANDO	.1019
								UNEMP	.1810
								EDUCT	.3280
								ETHNC	.1153
								DIST2	.0365
2	EDUCT **	.5166	.2517	.2669	.8840	b =.2588 DIST1	.0661	AGE	.0056
						b =-.1716 EDUCT	.0661	FASIZ	.0523
								INDIF	.1495
								LANDO	.1433
								UNEMP	.0760
								ETHNC	.0501
								DIST2	.0476
3	INDIF **	.5322	.2512	.2833	.0164	b =.2461 DIST1	.0660	AGE	.0100
						b =-.1784 INDIF	.0662	FASIZ	.0012
						b =.1041 INDIF	.0928	LANDO	.1720
								UNEMP	.0396
								ETHNC	.0225
								DIST2	.0298
4	LANDO **	.5518	.2497	.3045	.0212	b =.2413 DIST1	.0666	AGE	.0351
						b =.1883 EDUCT	.0663	FASIZ	.0024
						b =.1237 INDIF	.0935	UNEMP	.0138
						b =.0872 LANDO	.0680	ETHNC	.0202
								DIST2	.0214

APPENDIX TABLE 3 (CONT.)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
5	AGE **	.5526	.2520	.3053	.0080	b =.2441 DIST1 b =-.1920 EDUCT b =.1268 INDIF b =.0897 LANDO b =.0188 AGE	.0681 .0684 .0951 .0692 .0736	FASIZ UNEMP ETHNC DIST2	.0119 .0228 .0147 .0256
6	DIST2 **	.5529	.2542	.3058	.0005	b =.2570 DIST1 b =.1952 EDUCT b =.1247 INDIF b =.0893 LANDO b =.0204 AGE b =.0183 DIST2	.0978 .0712 .0966 .0699 .0748 .0991	FASIZ UNEMP ETHNC	.0065 .0217 -.0268
7	ETHNC **	.5534	.2566	.3061	.0003	b =.2584 DISTI b =.1927 EDUCT b =.1195 INDIF b =.0885 LANDO b =.0185 AGE b =.0264 DIST2 b =-.0196 ETHNC	.0989 .0730 .1013 .0707 .0761 .1087 .1021	FASIZ UNEMP	.0034 .0191

APPENDIX TABLE 3 (CONT.)

-	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
8	UNEMP *	.5537	.2591	.3065	.004	b =.2559 DISTA b =.1892 EDUCT b =.1164 INDIF b =.0874 LANDO b =-.0211 AGE b =.0252 DIST2 b =.0181 ETHNC b =.0111 UNEMP	.1018 .0782 .1048 .0719 .0792 .1101 .1036 .0824	FASIZ+	.0015

** Significant on the 95 percent level

* Significant on the 99 percent level

+ Not significant

A = 0.9267

APPENDIX TABLE 4: PERCENT DISTRIBUTION OF THE MIGRATION FLOW TO MUMIAS SUGAR COMPLEX BY DISTRICT.

DISTRICT	PERCENT
Kakamega	55.2
Bungoma	11.2
South Nyanza	9.0
Siaya	6.7
Busia	4.5
Kisumu	3.7
Trans-Nzoia	3.0
Others *	6.7
TOTAL .	100.0

* This category includes: Kisii, Kericho, Nandi, Kirinyaga, Nyeri, Meru, Taita Taveta and Kwale Districts.

APPENDIX 5:THE QUESTIONNAIRE USED BY THE PRINCIPAL RESEARCHERS IN THE AGRICULTURE-DEMOGRAPHIC INTER-RELATIONSHIP SURVEY

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J.E.O. ODADA
S.A. KHASIANI
S.G. MBOGOH
W.E.O. OCHORO

DIRECT EMPLOYMENT AT THE FACTORY LEVEL

IDENTIFICATION

a) Name _____ b) Employment Code_____

c) Age _____ d) Sex _____

e) Interviewers Name_____ f) Date_____

g) Name of Factory_____

ETHNIC AND TRIBAL ORIGIN

1. What is your ethnic group?

   i) African_____ ii) Asian _____

   iii) European_____

2. What is your nationality?_____

3. If African, what tribe do you belong to?_____

4. What is your religion?

   i) Protestant _____ ii) Catholic _____

   ii) Muslim _____ iii) Atheist _____

   iv) Other (specify) _____

5. Do you happen to be one of those who were evicted to create room for this factory? Yes____ No_____

EDUCATION AND TRAINING

6. What is the highest standard of education you attained? _____

7. What professional training have you got?

   _____

OCCUPATION

8. What is your job specification at the factory?

   _____

   _____

9. What is your monthly salary? Shs._____

10. What was your occupation before you took employment at the factory? _____

11. What was your salary (Shs./month) in this previous occupation? _____

12. When did you join this factory?_____

13. Why did you leave your previous employment to take up employment in the factory?_____

_____

_____

_____

14. Which is your usual residence (home area)?

Country	Province	District	Location	Sub-location

15. What is your marital status?

i) Married_____ ii) Single _____

iii) Divorced_____ iv) Widowed _____

16. For married men workers, give the following information about your family:

Wife	Age	Level of Education	Type of Employment	No. of Children Born Alive
1st Wife				
2nd Wife				
3rd Wife				
4th Wife				
5th Wife				
TOTAL				

17. For married women employees, state level of education _____, married to a polygamist_____

married to a monogamist_____

Number of children _____

18. Given that you are working in this factory, who makes the day to day decisions in your usual home?

Name_____ Sex _____

Age _____

19. Does your family own any agricultural land?

Yes _____ No _____ How many acres?_____

20. Who works on this agricultural land at home?

Relation to you	Age	Education
i)		
ii)		
iii)		
iv)		
v)		
vi)		

21. What crops are grown on your family land at home?

i) _____

ii) _____

iii) _____

iv) _____

v) _____

vi) _____

vii _____

22. How often do you visit home? _____

23. How much money do you remit home? Shs._____

How regularly? _____

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