THE ESTIMATION OF ADULT MORTALITY DIFFERENTIALS IN KENYA USING A LIFE TABLE TECHNIQUE

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DECLARATION

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

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ABSTRACT

In this study, the Horiuchi and Bennett (1981) technique is used to study the quality of the data on the number of registered deaths. The Preston and Bennett (1983), and the Bennett and Horiuchi (1982) techniques are then used to draw the life tables for Kenya at the National and District levels.

From the study, it has been found out that in most districts:

(i) the data on the number of registered deaths is incomplete and the incompleteness is higher for females than for males.

(ii) the life expectancy estimates for males are higher than the estimates for females in some districts.

(iii) for both males and females, the life expectancy estimates at age 5 are higher than those at age 0.

(iv) the life expectancy estimates were not similar in most districts and so there exist inter-district adult mortality differentials in Kenya.

Using the age specific growth rates computed, it was found out that the Kenya population by the year 2000 will comprise 15,677,549 males and 16,614,208 females, or the total population of Kenya will be 32,291,757.

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CHAPTER ONE

INTRODUCTION

The life-table methodology is one of the most valuable methods of mortality analysis. It started to be used from some time ago. In northern Italy, there existed a third century A.D. table of life expectancies that remained in use till the eighteenth century. Another attempt to construct a life table was undertaken by Girolamo Gardano but it was John Graunt who made a considerable contribution to the life table methodology. The life table was later brought to a sophisticated level by Lotka in his two papers of 1907 and 1911.[1]

Using the life table methodology, the United Nations[2] estimates that the life expectancy at birth in the World should rise from 45.8 years in the 1950-55 period to 58.9 years in the 1980-85 period. For Africa, the rise should be from 37.5 to 49.7 years during the same period. The expectation of life at birth in East Africa over the thirty year period, according to the estimates, should rise from 36.6 years to 48.8 years.

According to the United Nations monitoring report of 1979, "life expectancy at birth provides a

summary measure of mortality which is unaffected by the age structure of the population, thus it is a more useful tool than the crude death rate for making comparisons."

To study adult mortality levels and differentials effectively, it is therefore prefereable to use the life table technique. It is this technique that will be applied on the Kenya data.

1.1 PROBLEM STATEMENT

Studies on mortality that have been carried out on Kenya have centred mainly on infant mortality. For adult mortality the estimates that have been done tended to concentrate either on the mortality at the national level or the differentials at the provincial levels. This made it difficult to understand the mortality situation at district levels.

The environmental, demographic and even socio-economic variations that exist at district levels may have an impact on the mortality. Within a province, there is agreed districts' environmental, demographic and even socio-economic variation which may have an impact on mortality at district levels. An estimate of the provincial adult mortality level is therefore not a good approximation for each district. This leads to errors when the factors that bring about the inter-provincial and intra-provincial mortality levels are looked at.

Also, Nyokangi (1984) found out the extent of completeness of the Kenya data. It is therefore useful to find out how incomplete the data from the various districts is. From the incompleteness, it will be possible to know where to improve or to expand the registration process.

1.2 OBJECTIVES OF THE STUDY

The main objective of this study is to find out whether there exist any differentials in adult mortality in Kenya at district levels by:

(i) investigating the degree of completeness of the death registration data in Kenya at the National and district levels using a computer.*

(ii) constructing life tables for Kenya and its districts using a computer from:
   a) the 1969 and the 1979 Censuses data only.
   b) the incomplete death registration data and the two censuses' data.

A minor objective of this study is to use the age specific growth rates that have been calculated to project the population of Kenya at the national level up to the year 2000.

* The computer is used in order to get a more accurate estimate of the degree of completeness.

1.3 LITERATURE REVIEW

According to Shryock (1975)[3] "Life tables are in essence, one form of combining mortality rates of a population at different ages into a single statistical model. They are principally used to measure the level of mortality of the population involved. Their main advantage over other methods is that they do not reflect the effects of age distribution of an actual population and do not require the adoption of a standard population for acceptable comparisons of levels of mortality in different populations."

The first life table published in a logical way was Halley's life table in 1693. Before then, contributions to the life table methodology had been made by Girolamo Cardano, and John Graunt. Other life tables were prepared in the seventeenth and the eithteenth century on the basis of limited data. Milne prepared and published the first scientifically correct life table based on both the population and death data in 1815. A compilation of life tables for a larger number of countries spanning a wide range of time has been published by Keyfitz and Flieger.[4]

At least four systems of model life tables have been developed on the principle of narrowing the choice of a life table to those deemed feasible on the

basis of examination of mortality risks calculated for actual populations.[5]

These include:

i) The United Nations model life tables[6] that was developed by the population division of the United Nations Secretariat. The disadvantage with these tables was the data base from which the regression coefficients were estimated were not of the same quality.

ii) Coale and Delemy regional model life tables[7] - these tables were weighted basing on the Western experiences. From the experiences, the four patterns of North, South, East and West were formulated.

iii) Lederrmann's system of model life tables[8] - Lederrmann and Brass used factor analysis to explain the most important factors that were responsible for the variations among the life tables. These tables are not easy to use in developing countries because indirect techniques cannot be easily used on the data estimation.

iv) The United Nations model life tables for developing countries[9] - it is similar to the Coale and Demeny life tables in that district patterns of mortality schedules have been identified and published.

v) The Brass logit life table system[10] or the logit system - this one is more flexible for use than the first three.

The United Nations has also published a set of model stable population that can be used for demographic estimation.

According to Barclay[11], some methods of construction abridged life tables include the Reed and Merrel Method, by reference to a standard population, and the use of registration and census data.

Geographical mortality differentials in a country are interesting because they are the framework for national policies.[12]

According to Sawyer[13] (1981), Carvalho describes differentials in expectation of life at birth in Brazil which range from 44.2 years in the backward areas of the north east central region to 61.9

years in the south for the period 1960-1970. In the region of high urbanization, the urban life expectancies are higher than the rural ones.

According to Omran[14] (1971), the life expectancy at birth in the states that have a large population of blacks in the United States is lower than in others with a small black population.

Africa is a diverse continent in terms of demographic characteristics as it is in other ways. The direct measurement of mortality for all but a few unrepresentative areas in sub-Saharan Africa has not yet been possible. Consequently, levels, trends, and patterns have so far been estimated by indirect or inferential means.

In Morocco[15], rural areas have very low mortality rates as compared to the urban areas of the whole country. The North Atlantic districts enjoy a more salubrious climate, modernized agriculture, better wages, better educational levels, and a close contact with cities. In the middle Atlantic plains, the people enjoy a more adequate supply of food and a high urbanization. In contrast, the people of the Saharian region suffer the disadvantage of a severe winter besides being economically backward.

Recent research has revealed enormous class differentials in mortality in a large number of developing countries.[16] Within many countries, some groups enjoy mortality levels similar to those in the developed countries, but others, which have poor standards of living and no extensive public health measures, have levels that used to exist in the developed countries in the early decades of the century.[17] Relatively, little of the rural/urban differences remain when differences in the social class are controlled.[18]

There is no basis for assuming that the age-sex, urban-rural, and socio-economic differentials in mortality in sub-Saharan Africa are different in kind from those found in other parts of the world. It may be assumed that male mortality generally exceeds female mortality at all ages, that rural mortality is commonly higher than urban mortality, and mortality decreases as one moves up the socio-economic ladder in each African society.

Chen[19] (1982) concluded that substantial mortality differentials may exist among different geographical, ecological, and economic regions within a country with disadvantaged regions exhibiting higher mortality than the economically advantaged ones.

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According to Knowles and Anker (1976), mortality rates in Kenya are found to be significantly related to both socio-economic and to macro-environmental and health conditions.[20] Also, if public health measures are intensified in the relatively unhealthy regions the mortality differentials in Kenya will be narrowed. The mortality rates in Kenya were related to individual, household and environmental conditions. Knowles and Anker (1976) considered the individual and household characteristics to reflect one's "standard of living" and the environmental factors to be the focus of government health policy.[21]

Ronoh (1982)[22] found out that the female life expectancies at most ages were highest in Nairobi and Central Provinces and lowest in the Coast and North Eastern Provinces.

When studying the adult mortality at the national level in Kenya, Nyokangi[23] (1984) developed the following theory: "Environmental and Demographic factors are likely to affect the chances of dying from a given cause or group of causes in a given society." The environmental and demographic factors he considered were the age and the sex. In the course of the study, he used the Bennett-Horiuchi method (1981) and the Hill Zlotnik method to find out the completeness of the

Kenyan death registration data. He found it to be 22.2 percent for males and 12.7 percent for females. He also used the Bennett Horiuchi method (1981) and the Preston Census method (1981) to find out the life expectancy estimates at the national level. For ages below 35 for males and 45 for females, Nyokangi (1984) found out that the life expectancy estimates obtained using the Bennett-Horiuchi method were higher than those obtained using the Preston census method. After the above two ages, the order changed.

From the foregoing literature, the life table technique is one of the methods that are used to estimate adult mortality. Using it, it can be possible to estimate adult mortality differentials in a particular country. Among the factors that can bring about these differentials are socio-economic, demographic and environmental. In Kenya, some studies of adult mortality have been done by Knowles and Anker (1976), Ronoh (1982) and Nyokangi (1984), among others.

1.4 THEORETICAL FRAMEWORK

Nyokangi (1984) formulated the following conceptual hypothesis when studying the adult mortality levels in Kenya.[24] "Environmental and demographic factors are likely to affect the chances of dying from a given cause or group of causes of death in a given

society."

The theoretical statement that will be formulated, unlike the one that Nyokangi formulated, causes of death will be excluded and environmental and socio-economic factors will be included. Furthermore, the units of analysis will be districts.

The new formulation is as follows, "Environmental, demographic, and socio-economic factors are likely to affect the chances of death at any age in a given district."

From the above statement, the following propositions can be further formulated:

i) Environmental factors are likely to affect the chances of death at any age in a given district.

ii) Demographic factors are likely to affect the chances of death at any age in a given district.

iii) Socio-economic factors are likely to affect the chances of death at any age in a given district.

The paradigms arising from the conceptual hypothesis are as follows:

i) Environment and death;

ii) Demography and death;

iii) Socio-economic and death.

Gilpin Alan[25] (1976) defines environment as the region, surrounding or circumstances in which anything exists. It includes:

i) the purely physical or abiotic milieu in which it exists e.g. geographical, location, climatic conditions, terrain, and so on;

ii) the biotic or organic including non-living organic matter and all other organisms, plants, and animals in the region including the particular population to which the organism belongs.

Thus, the environment of a human being includes:

a) the biotic factors of land, water, atmosphere, climate, sound, odours, and tastes;

b) the biotic factors of animals, plants, bacteria, viruses, and the social factor of aesthetics.

The study of environment is often confined to factors external to the population. The environment has an influence on the life of the inhabitants. The prevalence of deaths in a particular district may be attributed to the terrain, climatic conditions, location, industrialization and so on. The environment also influences the availability and distribution of medical services, for instance in a place with a wet climate, the roads might not be all weather roads and so the distribution of medical drugs is hindered.

Bogue[26] (1969) defines demography as the empirical, statistical and mathematical study of populations. It is focussed on the following common and readily observable human phenomena. These are:

a) the change in population size;

b) the composition of the population;

and c) the distribution of the population in space.

Demography is also interested in changes of population over time. Moreover, it tries to seek explanations as to why a particular combination of population conditions are changing in exactly the way they are and at the rate of change they exhibit.

In a broader sense demography is defined to include additional characteristics of the population like marital status and the family, place of birth, literacy, employment status, occupation, sex, income, residence and others. One can therefore, study how demographic structures and processes affect factors external to the population system. And how these, in turn, affect demographic structures and processes. For instance, the smaller the amount of food in a particular district, the greater is the chance of dying from starvation at any age.

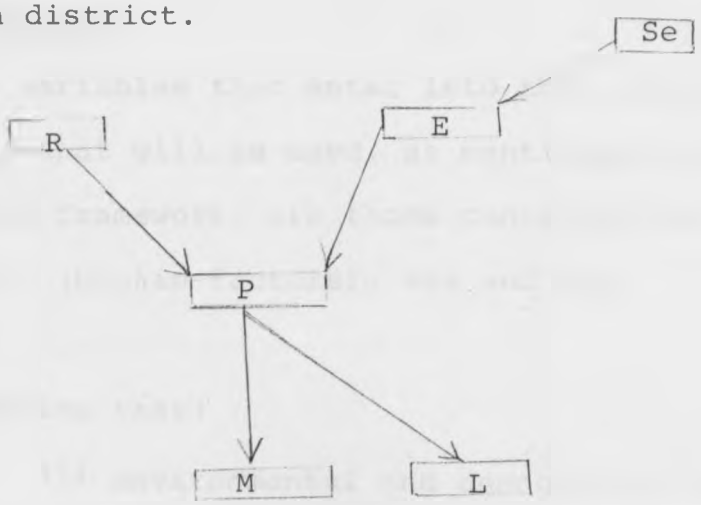
In the study that will follow, the socio-economic factors that will be considered are those that are linked with the environment or demography. For instance, irrigation can be introduced in order to improve food production in a district even if it has less rain. To introduce irrigation, socio-economic considerations like money come in. On the other hand, irrigation can bring about the prevalence of mosquitoes in a particular district. The mosquitoes, which spread malaria, can contribute to more deaths at any particular age.

The terms environment and demography are not independent. Demographic factors that will be considered are those concerned with "inborn" biological factors, e.g. sex. Environmental factors will refer

to all factors relating to the environment, for instance climate.

Death, according to the W.H.O. is the permanent disappearance of all evidence of life at any time after birth has taken place or the "post-natal cessation of vital events without capability of resuscitation."[27] The post-natal cessation of vital events has many causes i.e. demographic (or inborn) and environmental. In this study it will be assumed that inborn biological characteristics play a dominant role in the deaths whereas under other circumstances, the environment does likewise.

A Preliminary model can thus be formulated to explain differentials in mortality by sex, age, and for each district.



In the above model: (i) Se is the socio-economic component;
(ii) E is the environment component ;

(iii) M is the mortality;

(iv) R is the Residual component;

(v) P is the demographic component;

(vi) L is the survival component.

The socio-economic component influences changes in the environment. The environment then affects the demographic component which is the population. The influence can bring about either deaths (M) or survival (L).

Similarly, the Residual component, which deals with other factors that are not environmental, affects the demographic component or the population. This also bring about death (M) or survival (L).

1.5 HYPOTHESIS

The variables that enter into the conceptual hypothesis that will be used, as mentioned in the theoretical framework, are those concerned with the environment (biotic factors), sex and age.

Assuming that:

(i) environmental and demographic factors cause mortality throughout the life span;

and (ii) Although the life expectancies at certain ages in some districts may be similar, the life expectancies throughout

all ages are peculiar for each district.

From the above assumption, it can be hypothesized that:

a) There exist age and sex differentials in mortality for each district;

b) Owing to the fact that various unique characteristics of the environment (biotic factors) exist in the various districts of Kenya, the risk of dying at any age should vary according to the environmental characteristics of the districts.

1.6 SIGNIFICANCE OF THE STUDY

As Roland Pressat (1972)[28] puts it, "Life tables, called mortality tables in many countries provide the most complete description of mortality." Other uses of the study are:

i) The insurance industry is expanding very rapidly. For the sake of the Life assurance policies, the district life tables will be useful.

ii) Nyokangi (1984) found out the extent of incompleteness of the data on Adult Mortality in Kenya. In this study, the incompleteness is examined for each district. This will be of use to health planners.

iii) To enable the government, which has turned its attention to regional development, to understand the mortality situation in each district.

1.7 DATA SOURCE

According to Shryrock[29] (1975), "Vital registration is likely to be inadequate in the under-developed countries, other sources of measuring mortality have to be considered." The principal alternative sources are the national censuses and the national sample surveys.

The Registrar General's Office, in the Attorney General's Office, is the one that carries out the registration of vital events, i.e. births and deaths. In nearly all districts, according to the office's 1977 report, except Marsabit, Mandera, Wajir, Isiolo, Samburu, Turkana, and Tana River, the department had established its own vital events registers. The only districts without the registers i.e. Marsabit, Mandera, Wajir, Isiolo, Samburu, Turkana and Tana River, gave their vital events information to the District Commissioners.

The other data to be used in this study are the 1969 and the 1979 censuses. The information needed from this one is the population by age, sex and residential province.

The forms used in the field for registration are:

i) Form A2, on which the qualified medical practitioner certifies the death and gives the medical cause of death. The information is then coded according to the international statistical classification by the recording officers.

ii) Form A3 on which no medical practitioner certifies the cause of death but the cause of death is determined by a description of the fatal symptoms.

The forms are then returned to the central registry. The staff at the central registry code this information and store it on a computer.

1.8 DATA QUALITY

According to Gerald John[30] (1974), some limitations of the mortality data that exist in the developing countries include:·

i) errors in diagnosis; and

ii) coverage errors and ommissions.

Kenya, like other developing countries, has not yet expanded its birth and death registration system. Therefore, there exists incomplete coverage of the vital events. Further difficulties arise when ages

are mistated either in the census or in the registration process.

Some districts have more or better hospitals than others. Some patients who are admitted to district hospitals other than their mother districts, are registered among the deaths in the other districts. These leads to some districts having more deaths than they actually are supposed to have.

Generally, the demographic data are not perfectly accurate although inferential or indirect means can be applied to it in order to make demographic estimations.

1.9 SUMMARY AND SCOPE OF THE STUDY

1.9.1 Summary of the Chapters

Chapter One deals with the problem to be studied, the objectives, and the literature review. It also deals with the theoretical statement, the hypothesis, and the type of data to be used.

Chapter Two includes all the methods of analysis that are used in the study, their derivations, and explanations.

In Chapter Three, computer programmes are designed for the Bennett-Horiuchi techniques of estimating adult mortality. The degrees of completeness

of the death registration data and the life tables from the incomplete death registration data are then analysed.

The life tables are constructed from the 1969 and the 1979 population censuses' data only in Chapter Four. First, the Computer programmes are designed and then the life tables from the incomplete death registration data are analysed. From the age specific growth rates, population projections are carried out for Kenya at the National level.

The life tables obtained in Chapters Three and Four are then analysed to find out if there exist any district adult mortality differentials in Chapter Five. The last chapter, Chapter Six, contains the conclusions and recommendations from the Study.

1.9.2 Scope and Limitations of the Study

In order to exhaustively examine the adult mortality differentials in Kenya, it is necessary to have the death registration data from all the districts. Unfortunately, some districts do not have the records of death registration.

However, the adult mortality differentials for some districts can be estimated using indirect means. From the estimates an overall picture of the adult mortality differentials can be noticed.

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CHAPTER TWO

METHOD OF ANALYSIS

2.1 INTRODUCTION

William Brass, Ansley Coale, Samuel Preston, Bennett, Horiuchi, and others have developed indirect methods of estimating adult mortality from two consecutive censuses and the incomplete death registration data. They did so in order to circumvent the problem of inadequate or complete lack of data in many developing countries.

The stable population theory, in which it is assumed that there exist constant fertility and mortality schedules, is the one that was used to bring about the indirect estimation of adult mortality. Unfortunately, the theory did not work well with the data from the rest of the world apart from the data from the developed countries. With this in mind Coale (1963)[1] introduced the notion of Quasi-stable population theory. The theory assumes a constant fertility schedule and a declining mortality.

Some countries, for instance Kenya, have been experiencing a rapidly declining mortality and a declining or fluctuating fertility. Therefore, the

methods based on stable or quasi-stable population theory, are no longer useful in such countries.

In this chapter, a mathematical derivation of the formula that are used in the study in the next chapters is done. The formula that will be derived are those that were developed by Bennett and Horiuchi[2] (1981), Preston[3] (1982), and Preston and Coale[4] (1982).

2.2 MATHEMATICAL MODEL OF ANALYSIS

In a stable population,

$$N(x) = N(0)e^{-rx}P(x) \quad \ldots\ldots \quad (2.2.1)$$

where:

$P(x)$ is the probability of surviving up to age x from birth;

$N(x)$ is the number of persons aged x

r is the constant of growth rate

Differentiating the above equation with respect to x we get:

$$\frac{dN}{dx} = N(0)\ (-re^{-rx}P(x)+e^{-rx}\frac{dP}{dx})$$

$$= N(0)\ (-re^{-rx}P(x)+e^{-rx}\frac{P(x)}{P(x)}\ \frac{dP}{dx})$$

$$= N(0)e^{-rx}P(x)\ (-r+\frac{d}{dx}\ \log(P(x))$$

$$= N(x)\ (-r+\frac{d}{x}\ \log\ P(x)) \quad \ldots\ldots\ldots(2.2.2)$$

But $u(x) = \frac{D^*(X)}{N(x)}$;

where:

$u(x)$ is the age specific mortality rate at exact age x;

$D^*(x)$ is the number of deaths experienced by persons aged x.

$$u(x) = \frac{-1}{l(x)} \frac{dl}{dx}$$

$$= \frac{-d}{dx} \log l(x)$$

$$= \frac{-d}{dx} \log \frac{l(x) \times l(0)}{l(0)}$$

$$= \frac{-d}{dx} \log P(x)$$

(2.2) becomes:

$$\frac{dN}{dx} = N(x) \ (-r-u(x))$$

$$\frac{1}{N(x)} \frac{dN}{dx} = -r-u(x) \qquad \text{.....(2.2.3)}$$

$\frac{1}{N(x)} \frac{dN}{dx}$ is the relative change in the number of persons at age x.

If the relative change is a function of age then:

$$\frac{1}{N(x)}\frac{dN}{dx} = -r(x)-u(x)$$

$$\frac{d}{dx}\log N(x) = -r(x)-u(x)$$

If $a \leq x \leq a+n$, then integrating the above equation we get:

$$\log \frac{N(a+n)}{N(a)} = -\int_a^{a+n} (x)\,dx - \int_a^{a+n} u(x)\,dx$$

$$\text{i.e. } N(a+n) = N(a)\, e^{-\int_a^{a+n} r(x)\,dx - \int_a^{a+n} u(x)\,dx}$$

but:

$$e^{-\int_a^{a+n} u(x)\,dx} = {}_nP_a$$

$$N(a+n) = N(a)\, e^{-\int_a^{a+n} r(x)\,dx}\, {}_nP_a \qquad \ldots\ldots 2.2.4$$

if $o<x<a$, then we have:

$$N(a) = N(O)\, e^{-\int_o^{a} r(x)\,dx}\, P(a)$$

P(a) is the probability of surviving from birth to age 'a'.

<u>Alternative approach to the above derivation</u>

Using differentials,

$$dN(a,t) = \frac{d}{da}(N(a,t)\,da + \frac{d}{dt} N(a,t)\,dt$$

At time t+dt, the number of persons aged 'a' at time t who have died is:

$$D^*(a,t)=N(a,t)-N(a+da,t+dt) \quad \ldots\ldots(2.2.5a$$

Rearranging, we get:

$$-D^*(a,t)=N(a+da,\ t+dt)\ -\ N(a,t) \quad \ldots\ldots\ldots(2.2.5b)$$

By the principle of differential calculus, if:

$$df=\ f(x+h,y+h)-f(x,\ y)$$

then:

$$df=h\ \frac{df}{dx}+k\ \frac{df}{dy},\ \text{as}\ (h,k)\rightarrow 0$$

equation (2.2.5b) becomes:

$$-D^*(a,t)=\frac{dN}{da}\ da+\frac{dN}{dt}\ dt \quad \text{as}\ da=dt\rightarrow 0$$

$$\frac{-D^*(a,t)}{N(a,t)da}=\left(\frac{dN}{da}+\frac{dN}{dt}\right)\frac{1}{N(a,t)}$$

$$\text{i.e.}\quad -u(a,t)=\frac{1}{N(a,t)}\ \frac{dN}{da}+\frac{1}{N(a,t}\ \frac{dN}{dt}$$

But:

$$\frac{1}{N(a,t)} \frac{dN}{dt} = r(a,t)$$

Therefore:

$$\frac{1}{N(a,t)} \frac{dN}{da} = -r(a,t) - u(a,t)$$

i.e. $$\frac{d}{da} \log N(a,t) = -r(a,t) - u(a,t)$$

integrating within the intervals $a<x<a+n$ we get:

$$N(a+n) = N(a)\, e^{-\int_a^{a+n} r(x)\,dx}\, e^{-\int_a^{a+n} u(x)\,dx}$$

$$= N(a)\, e^{-\int_a^{a+n} r(x)\,dx}\, {}_nP_a \qquad \ldots\ldots(2.2.5c)$$

Given the probability of a person dying by age x after having survived to age 'a' is ${}_{x-a}q_a$, we have that $\infty q_a = 1$ since he must eventually die.

Hence,

$$N(a) = N(a) \cdot {}_{\infty}q_a$$

$$= \int_a^{\infty} N(a)\, {}_{x-a}P_a\, u(x)\,dx$$

$$= \int_a^{\infty} N(a)\, {}_{x-a}P_a \exp\left(-\int_a^x r(u)\,du\right) u(x) \exp\left(\int_a^x r(u)\,du\right) dx \qquad \ldots\ldots\ldots(2.2.6)$$

From equation 2.2.4:

$$N(a+n) = N(a)e^{-\int_a^{a+n} r(x)\,dx}\, {}_nP_a$$

$$N(x) = N(a)\, {}_{x-a}P_a\; e^{-\int_a^x r(u)\,du}$$

equation 2.2.6 becomes:

$$N(a) = \int_a^{\infty} N(x)\, u(x) \exp\int_a^x [r(u)\,du]\,dx$$

$$= \int_a^{\infty} D^*(x) \exp\left(\int_a^x r(u)\,du\right) dx \qquad \ldots\ldots\ldots(2.2.7)$$

Since $\dfrac{D^*(X)}{N(x)} = u(x)$

For computational purposes the region of integration is split into two parts namely, from a to a+n and from a+n to infinity.

So, formula 2.2.7 becomes:

$$N(a)=\int_a^{a+n} D^*(x)\exp\left[\int_a^x r(u)\,du\right]dx+\int_{a+n}^{\infty} D^*(x)\exp\left[\int_a^x r(u)\,du\right]dx$$

$$=\int_a^{a+n} D^*(x)\exp\left[\int_a^x r(u)\,du\right]dx+\left[\int_{a+n}^{\infty} D^*(x)\exp\left[\int_{a+n}^x r(u)\,du\right]dx\right]\left[\exp\left[\int_a^{a+n} r(u)\,du\right]\right.$$

.....(2.2.8a)

From equation 2.2.7:

$$N(a)=\int_a^{\infty} D^*(x)\exp\left[\int_a^x r(u)\,du\right[dx \quad .....(2.2.8b)$$

it follows that

$$N(a+n)=\int_{a+n}^{\infty} D^*(x)\exp\left[\int_{a+n}^x r(u)\,du\right]dx$$

Substituting the value of N(a+n) in equation 2.2.8

we get:

$$N(a)=\int_a^{a+n} D^*(x)\exp\left[\int_a^x r(u)\,du\right]dx+N(a+n)\exp\left[\int_a^{a+n} r(u)\,du\right] \quad .....(2.2.9)$$

Let $r(u)=n^r a$ for $a<u<a+n$

and $n^{D^*}a=\int_a^{a+n} D^*(x)\,dx$

By the mean value thereon, there exists a value 'Z', $a<z<x$, such that:

$$\int_{a}^{a+n} D^*(x)\exp[(x-a).n^r a]dx = \int_{a}^{a+n} D^*(x)\exp[Z.n^r a]dx$$

$$= \int_{a}^{a+n} D^*(x)dx]\exp[Z.n^r a]$$

(2.2.9) then becomes:

$$N(a) = {}_{n}D^*_a \exp[Z.n^r a] + N(a+n)\exp[n.n^r a] \quad \ldots\ldots\ldots (2.2.10a)$$

if N=5 and Z=2.5

then:

$$N(a) = 5{}_{5}D^*_a \exp[2.5\,{}_{5}r_a] + N(a+5)\exp[5.{}_{5}r_a] \quad \ldots\ldots (2.2.10b)$$

for

a= 0,5,10,..., A-5, where A is the lower bound of

the open interval.

Below is the derivation of the formula for the open interval. It is based on a suggestion by Ansley Coale to Bennett and Horiuchi[5] (1981).

It was found out earlier that:

$$N(a) = \int_{0}^{\infty} D^*(x)\exp[\int_{a}^{x} r(u)du]dx$$

For the open interval, population above age 'a' is assumed to be stable with r(u)=r

$$N(a)=\int_a^{\omega} D^*(x)\exp[(x-a)r]dx \quad .....(2.2.11)$$

If y=x-a, then dy=dx

Therefore, $N(a)=\int_0^{\omega} D^*(a+y)\exp(ry)dy$

But $e^{ry}=(1+ry+\frac{r^2y^2}{2}+...)$

$$N(a)=\int_0^{\omega}(1+ry+\frac{r^2y^2}{2})D^*(a+y)dy$$

Let $D^*(a+)=\int_0^{\omega} D^*(a+y)dy$

and the probability density function be:

$$f(a,y)=\frac{D^*(a,y)}{\int_0^{\omega} D^*(a,y)dy}=\frac{D^*(a,y)}{D^*(a+)}$$

$$N(a)=D^*[1+\int_0^{\omega} ry\,\frac{D^*(a+y)}{D(a+)}dy+\int_0^{\omega}\frac{r^2y^2}{2}\,\frac{D^*(a+y)}{D^*(a+)}]$$

$$=D^*(a+)[1+r\int_0^{\omega} yf(a,y)dy+\frac{r^2}{2}\int_0^{\omega} y^2 f(a,y)dy]$$

$$=D^*(a+)[1+r\bar{y}+\frac{r^2}{2}(\bar{y}+\sigma^2)] \quad .....(2.2.12)$$

where $\bar{y}$ and σ^2 are the mean and variance of the age at death above 'a'.

It can be proved that:

$$\bar{y}=e(a)-r\sigma^2$$

(2.2.12) then becomes:

$$N(a)\doteq D^*(a+)\left[1+r(e(a)-r\sigma^2)+\frac{r^2}{2}\left((e(a)-r\sigma^2)^2+\sigma^2\right)\right]$$

$$=D^*(a+)\left[1+re(a)+\frac{r^2}{2}e^2(a)-\frac{r^2}{2}\sigma^2\right]$$

$$=D^*(a+)\left(\exp\left[re(a)-\frac{r^2\sigma^2}{2}\right]\right)$$

σ^2 is well approximated by:

$\sigma^2=\frac{e^2(a)}{3}$, for $a>10$ for a wide array of existing life tables.

Hence it follows that:

$$N(a)=D^*(a+)\exp\left[re(a)\right]-\frac{[re(a)]^2}{6} \quad \ldots\ldots(2.2.13)$$

2.2A: METHOD 1: ESTIMATION OF THE COMPLETENESS OF DEATH REGISTRATION

$$D^*(x)=KD(x) \text{ for all } x>a \quad \ldots\ldots(2.2.14)$$

where D(x) is the number of registered deaths to persons aged x, D(x) is the true number of deaths experienced by persons aged x in the current population and k is the inverse of the completeness of death registration.

Substituting D*(x) by KD(x) as given in equation (2.2.8b), we get:

$$(N(a)=K\int_a^\infty D(x)\ \exp[\int_a^\infty r(u)\,du]\,dx$$

$$=K\hat{N}(a) \text{ if } \hat{N}(a) \text{ is } \int_a^\infty D(x)\ \exp(\int_a^x r(u)\,du)\,dx$$

$$C=\frac{1}{K}=\frac{\hat{N}(a)}{N(a)}$$

C is the completeness of death registration.

For practical purposes:

$$\hat{N}(a)=\hat{N}(a+5)\exp[5._5r_a]+5^Da\ \exp[2.5_5r_a] \quad \ldots\ldots(2.2.14)$$

For the open interval

$$\hat{N}(A) = D(A+)\left[\exp[r(A+)e(A)] - \left[\frac{r(A+)e(A)}{6}\right]^2\right]$$

After obtaining $\hat{N}(A)$, then we can determine or generate all other $\hat{N}(a)$'s for a=0,5,10, ..., A-5.

Therefore $5\hat{N}a = 2.5\hat{N}(a) + \hat{N}(a+5)$ .....(2.2.15)

2.2B METHOD 11: LIFE TABLE CONSTRUCTION FROM INCOMPLETE DEATH REGISTRATION DATA

$$nPa = \frac{N(a+n)}{N(a)} \exp\left[\int_a^{a+n} r(u)\,du\right]$$

nPa is the probability of survival from age a to age a+n.

Assuming that the completeness of death registration does not vary with age, then,

$$nPa = \frac{\hat{N}(a+n)}{\hat{N}(a)} \exp\left[\int_a^{a+n} r(u)\,du\right] \quad .....(2.2.16)$$

The other life table functions can then be derived from the nPa's.

To estimate $\hat{N}(a+n)$ or $\hat{N}(a)$ values we use equations (2.2.14) and (2.2.15)

e(A) can be estimated by taking an approximate level of mortality.

Bennett and Horiuchi[6] (1982) however suggested some procedure which takes advantage of the relationship observed in the Coale-Demeny[7] (1982) model life tables between the age distribution of deaths and the estimation of life at a given age in the estimation of e(A).

Let D(a) be the number of registered deaths at age a and u(a) be the instantaneous death rate at age a, then:

$$D(a) = N(a)u(a)$$

$$= N(0) \exp\left[-\int_0^a r(x)dx\right] P(a)u(a)$$

$$= N(0) \exp\left[-\int_0^a r(x)dx\right] d(a) \quad \ldots\ldots (2.2.17)$$

d(a) is the deaths at age a in the life table prevailing at time t. (with radix 1).

$\int_0^a d(a)da = 1$ if deaths are completely registered. If the deaths are registered with completeness C at all ages, then the value will equal C.

Therefore $\dfrac{\int_0 D(a) \exp\left[\int_0^a r(x)dx\right] da}{N(0)} = C$

Thus $\int_0^{\infty} \frac{D(a)}{CXN(0)} \exp\left[\int_0^a r(x)dx\right]da = 1$

Therefore $D(a) = \frac{D(a)}{C\,X\,B\,(0)} \exp\left[\int_0^a r(x)dx\right]$ .....(2.2.18)

Let $N(0)=B$, be the annual number of births.

then $d(a) = \frac{D(a)}{C\,X\,B} \exp\left[\int_0^a r(x)dx\right]$

The discrete analogue to this equation is

$$5^d a = \frac{1}{C\,X\,B}\, 5^D a \exp\left[\sum_{x=0}^{a-5} 5^r x + 2.5_5 r_a\right]$$

In each family of the model life table system, there exist a one-to-one relationship between the ratio of adolescent and younger adult deaths (age 10 to 40) to older adult deaths (ages 40 to 60), and the life expectancy at any age x; for x=60, ..., 95 (Coale and Demeny[8], 1982).

Thus when the values of $5^d a$ are summed to form the ratio $30^d 10/20^d 40$, it is not necessary to know C and B since they appear in both the numerator and denominator and cancel each other out.

Once we compute the ratio, we refer to the appropriate family of model life tables for the corresponding e(x) value, which may be approximated by interpolation.

Table A.1 in the Appendix displays the ratios of ${}_{30}^{d}{}_{10}/{}_{20}^{d}{}_{40}$ and the corresponding values of e(75) through e(95) which are associated with the Coale-Demeny West model life tables for males and females at many different levels of mortality.

Using equation (2.2.14 and (2.2.15), we can generate all values of N(a), for a=0, 5, ..., A-5 and A. After computing these values, it is a simple matter to derive five-year survival probability by using:

$$ {}_5P_a = \frac{\hat{N}(a+5}{\hat{N}(a)} \exp\,[5.{}_5r_a] $$

The other life table functions are derived from the sequence of ${}_5P_a$'s by the following equations:

$$ \frac{l_{a+5}}{l_a} = {}_5P_a $$

$$ {}_5d_a = \frac{5}{2}\,(l_a + l_{a+5}) $$

$$ T_a = \sum_{y=a} {}_5L_y $$

and $$ e_a = \frac{T_a}{l_a} $$

Earlier on, Z was assumed to be equal to 2.5. (equation (2.2.10b). This will contribute to a biased estimate of N(a) at the older ages. A correction factor, ${}_5^r x$, is developed to compensate for the error due to this assumption.

Equation (2.2.14) is then adjusted to be

$$\hat{N}(a) = \hat{N}(a+5) \exp [5 \cdot {}_5r_a] + {}_5^{\gamma}\theta_a \, {}_5D_a \exp [2.5 \, {}_5r_a]$$

for a>10 .....(2.2.19)

where:

${}_5^{\gamma}x$ is estimated by the formula.

$${}_5^{\gamma}x = 1.00 - 2.26 \, {}_5r_x \, {}_5^M x + .218 \, {}_5r_x - .826 \, {}_5r^2 x$$

and ${}_5^M x$ is the observed age specific death rate.

2.2C METHOD 111 : INTERCENSAL METHOD OF MORTALITY ESTIMATION

It was proposed by Preston [9] (1981). Preston's method requires that the population be closed (that is not subject to migration) and that the completeness of coverage attained by each of the censuses being compared be the same. However, the population under consideration need not be stable.

The method is based on the validity of equation (2.2.6).

Changing the dummy variables to a+n=y and x=a, we have:

$$N(y)=N(x)\,{}_{y-x}P_x \exp\left[-\int_x^y r(a)\,da\right], \text{and}$$

since:

$${}_{y-x}P_x = l(y)$$

we have:

$$N(y)=N(x)\left[\frac{l(y)}{l(x)}\right] \exp\left[-\int_x^y r(a)\,da\right] \quad \ldots\ldots(2.2.20)$$

Furthermore, by definition $e_x^0=\frac{T_x}{l_x}$

$$=\frac{1}{l_x}\int_0^\infty l(x+t)\,dt$$

$$=\int_0^\infty \frac{l(x+t)}{l(x)}\,dt$$

In particular $e_0^0=\int_0^\infty {}_tP_0\,dt=\int_0^\infty P(t)\,dt$

From the equation (2.2.20 above) we have:

$${}_{y-x}P_x=\frac{N(y)}{N(x)} \exp\left[\int_x^y r(a)\,da\right]$$

Therefore $e_x^0 = \int_0^\infty {}_{y-x}P_x\,dy$

$$=\int_0^\infty \frac{N(y)}{N(x)} \exp\left[\int_x^y r(a)\,da\right]dy \quad \ldots\ldots(2.2.21)$$

In discrete terms with five-year age interval, we then have $e_x^0 = \frac{\sum_{y=x}^{\infty} {}_5N_y \exp[5.\sum_{a=x}^{y-x} {}_5r_a + 2.5\,{}_5r_y]}{N(x)}$ .....(2.2.22)

where ${}_5N_y$ is the mean of the two census age distributions; ${}_5r_y$ is the intercensal growth rates of age group y to y+4 given by:

$${}_5r_y = \frac{1}{t_2 - t_1} \ln\left[\frac{{}_5N_y(t_2)}{{}_5N_y(t_1)}\right] \qquad .....(2.2.23)$$

where t_1 and t_2 are the periods when the censuses were conducted, and N(x) is the mid-period number of persons aged x, estimated by:

$$N(x) = \frac{{}_5N_x + {}_5N_{x-5}}{10} \qquad .....(2.2.24)$$

N(x) can be derived to be :

$$N(x) = \frac{{}_5N_x \exp[-2.5\,{}_5r_{x-5}] + {}_5N_x \exp[2.5\,{}_5r_x]}{10} \qquad .....(2.2.25)$$

Hill and Zlotnik[10] (1982) however argued that since age reporting at older ages is, if anything, less reliable than at younger ones, it is not advisable to use the observed growth rate of the open interval for the purpose of estimating. Because of this, they

suggested that the contribution, $\rho(A)$, of the growth rate of the uppermost age group in mortality estimation be calculated on the basis of the other, more reliable evidence, such as the growth rate of the population over 10 [r(10+)] and the rate of the population over 45 to the population over age 10 at the middle of the intercensal period [N(45+) /N(10+)]. Using simulated stable populations and least squares regression; they arrived at the following equations relating $\rho(a)$ to the quantities just cited.

$$\rho(a)=a(A)+b(A)r(10+)+C(A)\ln[N(45+)/N(10+)] \quad \ldots\ldots(2.2.26)$$

With the values of the coefficients a(A), b(A) and C(A) as listed in Table A2 in the appendix.

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CHAPTER THREE

ESTIMATING ADULT MORTALITY FROM THE INCOMPLETE DEATH REGISTRATION DATA.

3.1 INTRODUCTION

According to Bennett and Horiuchi[1] (1981), the assessment of the Mortality level of a population is often based on information including the number of registered deaths. But, in many developing countries, the deaths are under-registered by a significant margin and this may lead to a biased estimate of the level of Mortality.

To solve the previous problem, Bennett and Horiuchi (1981), introduced the age specific growth rates technique.

In this chapter, the two censuses of 1969 and 1979 will be used to estimate the age specific growth rates. Then, the Bennett and Horiuchi (1981) method will be used to estimate the level of completeness of the death registration data in all districts of Kenya.

3.2 PROCEDURE FOR ESTIMATING THE DEGREE OF COMPLETENESS OF THE DEATH REGISTRATION DATA

(i) The Age Specific Growth Rates ($5^{r}a$) are calculated using the formula:

$$5^{r}a = \frac{1}{t(10)} \ln \frac{5^{N}a(1979)}{5^{N}a(1969)}, \qquad \ldots\ldots(3.2.1)$$

where t(10) the period between the two censuses is 10 years; ${}_5^r a$ is the growth rate in the age group a to a+5, ${}_5^N a$ is the population in the age group a to a+5.

(ii) An estimate of the life expectancy at age 60 and above is calculated using the Hill and Zlotnik[2] (1982) method.

a) $$Z(60 = a(60) + b(60)r(60) + C(60) \exp\left[\frac{D(45+)}{D(10+)}\right] \quad \ldots.(3.2.2$$

where a(60), b(60), c(60) are coefficients obtained from the stable populations and they are in the appendix A2,

r(60) is the growth rate at age 60 and over,

$\frac{D(45+)}{D+(10+)}$ is the ratio of Deaths above age 45 to those above age 10.

b) $$\hat{N}(60 = D(60) \left[\exp\left(r(60)Z(60)\right)\right] \quad \ldots.(3.2.3)$$

$\hat{N}(60)$ is an estimate of the population above age 60, D(60) is the number of deaths above age 60, r(60) is the growth rate at age 60 and over, and Z(60) is obtained as above (3.2.2).

(iii) $\hat{N}(a-5)=\hat{N}(a) \exp [5.5^{r}a]+5^{D}a-5 \exp [2.5_{5}r_{a-5}]$

.....(3.2.4)

Here, $\hat{N}(a-5)$ is the estimate of the population at age a-5. $\hat{N}(a)$ is the estimate of the population at age a. $5^{D}a-5$ is the number of deaths from age a-5 to age a, $(\hat{N}(a)$ is initially 60 years and it is interated downwards until a-5 is zero.

(iv) Compute an estimate of the population for all age groups a to a+5 (i.e. 0-4, 5-9, ...55-60). using formula:

$$5\hat{N}a= 2.5[\hat{N}(a)+\hat{N}(a+5)] \quad .....(3.2.5)$$

(v) Compute $10\hat{N}a-5=5\hat{N}a-5+5\hat{N}a$ for all ages

.....(3.2.6)

and $10^{N}a-5=5^{N}a-5+5^{N}a$ ....(3.2.7)

(vi) Compute the ratio $\frac{10\hat{N}a-5 \text{ (estimate)}}{10^{N}a-5 \text{ (from census)}}$ .....(3.2.8)

This ratio, call it C, gives the value of the completeness in the respective age groups.

(vii) Estimate the median of the completeness at all ages.

The median is then considered to be the completeness of the data.

3.3 ESTIMATION OF N(60)

The estimate of the population above age 60, at the National and District levels, Males and Females, using the Hill and Zlotnik method. Estimates are in Table 3.3.1a.

3.4 COMPUTER PROGRAM; FOR THE BENNET-HORIUCHI METHOD FOR ESTIMATING THE DEGREE OF COMPLETENESS OF THE DEATH REGISTRATION DATA.

Variables used:

(i) IA(I) is the age group in years (e.g. 0-4, 5-9).

(ii) IR(I) is the age specific growth rate ($5^{r}a$)

(iii) ID(I) is the number of Deaths ($5^{D}a$)

(iv) NP(I) is the population at age a after estimation [N(a)]

(v) IGP(I) is the population from the 1979 Census ($5^{N}a$).

(vi) IEPOP(I+1) is $\frac{5}{2}[N(a)+N(a+5)]$

or $5^{N}a$

(vii) IGPOP(I+ 1) is $10^{N}a-5$

(viii) ISEPOP(I+ 1) is $10^{N}a-5$

(ix) CPOP(I+ 1) is the degree of completeness of the death registration data.

The rest of the computer program is in Appendix A5.

3.3.1a ESTIMATES OF N(60), THE POPULATION AT AGE 60 AND OVER IN KENYA AT THE NATIONAL AND DISTRICT LEVELS. (USING HILL AND ZLOTNIK METHOD.

	District	$\hat{N}(60)$ Males	$\hat{N}(60)$ Females
1.	Kenya	6420	3740
2.	Baringo	10	7
3.	Bungoma	222	205
4.	Busia	112	75
5.	Kisumu	15	84
6.	Elgeyo Marakwet	0	3
7.	Embu	92	63
8.	Murang'a	333	421
9.	Garissa	24	29
10.	Isiolo	0	3
11.	Kajiado	41	15
12.	Kakamega	472	279
13.	Kericho	48	41
14.	Kilifi	5	10
15.	Kirinyaga	105	81
16.	Machakos	428	259
17.	Marsabit	4	0
18.	Laikipia	40	17
19.	Lamu	7	7
20.	Meru	91	63
21.	Mombasa	205	135
22.	Nairobi	349	324

3.3.1a (cont.)

District	$\hat{N}(60)$ Males	$\hat{N}(60)$ Females
23. Nakuru	107	33
24. Nandi	16	6
25. Narok	5	2
26. Nyandarua	42	8
27. Nyeri	364	333
28. Samburu	0	-
29. South Nyanza	83	-
30. Taita	25	15
31. Tana River	1	2
32. Tranz-Nzoia	45	27
33. Turkana	0	0
34. Uasin Gishu	131	124
35. West Pokot	36	17
36. Siaya	616	0
37. Kiambu	0	301
38. Kisii	38	13
39. Kitui	55	59
40. Kwale	59	39

1979 DEATHS, POPULATION, AND RATES OF GROWTH BY AGE AND SEX, AND THE ESTIMATION OF THE DEGREES OF COMPLETENESS

Table 3.4A. 1 KENYA (FEMALES)

AGE	GROWTH RATE	DEATH	GIVEN POP	NEW POP	POP EST	COMPLETE
A	5RA	5DA	5NA	N1A	5N1A	COMP
60	0.020350	2839	342483	3740		
55	0.027030	277	134776	4590	20625	0.145
50	0.031920	350	191365	5703	25882	0.140
45	0.030530	304	222363	7041	32010	0.143
40	0.030590	269	274193	8495	38840	0.141
35	0.026770	338	325951	9780	45687	0.135
30	0.032320	316	413432	11837	54042	0.124
25	0.027650	352	542233	13969	64515	0.117
20	0.042320	341	687234	17659	79020	0.114
15	0.043990	340	859316	22919	101395	0.121
10	0.043510	357	1025677	26886	129312	0.127
5	0.033350	702	1246983	34690	159440	0.137
0	0.030610	6939	1423936	48195		

Table 3.4A. 2 BARINGO (FEMALES)

AGE	GROWTH RATE	DEATH	GIVEN POP	NEW POP	POP EST	COMPLETE
A	5RA	5DA	5NA	N1A	5N1A	COMP
60	0.005640	8	4613	7		
55	0.023420	0	1882	7	35	0.017
50	0.016410	1	2425	8	37	0.014
45	0.013430	1	3096	9	42	0.015
40	0.016190	4	3533	13	55	0.016
35	0.010860	1	4286	14	67	0.015
30	0.020910	1	5443	16	75	0.013
25	0.012730	5	7411	22	95	0.014
20	0.025250	3	8819	28	125	0.014
15	0.039320	1	11645	35	157	0.014
10	0.030450	0	13555	40	187	0.013
5	0.024560	1	16731	46	215	0.015
0	0.024610	22	18741	75		

Table 3.4A. 3 BUNGOMA (FEMALES)

AGE	GROWTH RATE	DEATH	GIVEN POP	NEW POP	POP EST	COMPLETE
A	5RA	5DA	5NA	N1A	5N1A	COMP
60	0.057520	106	10073	205		
55	0.038220	15	4124	264	1172	0.282
50	0.027670	11	5151	314	1445	0.269
45	0.041260	10	6848	397	1777	0.266
40	0.037790	9	8155	489	2215	0.272
35	0.020770	12	9582	555	2610	0.259
30	0.029370	11	12137	654	3022	0.236
25	0.038660	15	16190	809	3557	0.213
20	0.049320	19	22913	1056	4662	0.200
15	0.051450	14	30727	1381	6092	0.207
10	0.036500	21	35531	1660	7652	0.218
5	0.035340	62	42762	2072	9380	0.230
0	0.039310	427	52910	2993		

1979 DEATHS, POPULATION, AND RATES OF GROWTH BY AGE AND SEX, AND THE ESTIMATION OF THE DEGREES OF COMPLETENESS

Table 3.4A. 4 BUSIA (FEMALES)

AGE	GROWTH RATE	DEATH	GIVEN POP	NEW POP	POP EST	COMPLE
A	5RA	5DA	5NA	N1A	5N1A	COMP
60	0.026220	75	6386	75		
55	0.027320	8	3229	94	422	0.127
50	0.033980	9	4339	121	537	0.121
45	0.057880	11	6233	174	737	0.135
40	0.048660	9	6735	232	1015	0.162
35	0.017400	9	7125	262	1235	0.170
30	0.026960	9	8539	309	1427	0.161
25	0.027260	6	10658	360	1672	0.154
20	0.055520	6	13874	482	2105	0.155
15	0.071620	7	18794	697	2947	0.179
10	0.046420	13	19858	895	3975	0.206
5	0.032420	32	23476	1084	4942	0.221
0	0.035130	219	28407	1551		

Table 3.4A. 5 KISUMU (FEMALES)

AGE	GROWTH RATE	DEATH	GIVEN POP	NEW POP	POP EST	COMPLET
A	5RA	5DA	5NA	N1A	5N1A	COMP
60	0.016950	92	9516	84		
55	0.030420	21	5342	120	510	0.097
50	0.025270	25	7165	162	705	0.073
45	0.066350	19	17233	273	1087	0.080
40	0.086830	11	18468	435	1770	0.114
35	0.061540	22	20151	617	2630	0.141
30	0.086010	13	26680	974	3977	0.166
25	0.080640	26	34345	1469	6157	0.250
20	0.058260	17	23497	1627	6290	0.348
15	0.026110	24	28693	2128	9867	0.357
10	0.019860	21	30466	2372	11250	0.357
5	0.017270	37	36010	2624	12490	0.343
0	0.024750	335	43661	3326		

Table 3 4A. 6 ELGEYO M(DEMALES)

AGE	GROWTH RATE	DEATH	GIVEN POP	NEW POP	POP EST	COMPLET
A	5RA	5DA	5NA	N1A	5N1A	COMP
60	-.010270	6	4144	3		
55	0.218300	0	1062	8	27	0.018
50	0.006580	1	2068	9	42	0.016
45	-.006320	0	2542	6	42	0.015
40	-.003750	0	2746	7	37	0.011
35	-.014320	0	3333	5	32	0.008
30	-.009430	0	3703	5	27	0.006
25	-.015310	1	5149	5	25	0.005
20	-.001470	3	6365	7	30	0.004
15	0.000850	1	8543	8	37	0.004
10	-.002210	2	9959	9	42	0.004
5	-.005410	2	11882	10	47	0.007
0	0.003330	28	13005	36		

1979 DEATHS, POPULATION, AND RATES OF GROWTH BY AGE AND SEX, AND THE ESTIMATION OF THE DEGREES OF COMPLETENESS

Table 3.4A. 7 EMBU (FEMALES)

AGE	GROWTH RATE	DEATH	GIVEN POP	NEW POP	POP EST	COMPL
A	5RA	5DA	5NA	N1A	5N1A	COMP
60	0.013590	62	7133	63		
55	0.030530	2	2363	75	345	0.126
50	0.042770	3	3759	96	427	0.100
45	0.099690	6	7062	165	652	0.133
40	0.027030	11	4682	200	912	0.203
35	0.028650	12	5251	243	1107	0.203
30	0.030790	12	6932	305	1370	0.191
25	0.029670	9	8959	363	1670	0.189
20	0.041450	5	10633	452	2037	0.180
15	0.056060	7	15424	612	2660	0.182
10	0.057360	8	18829	824	3590	0.199
5	0.035590	21	22145	1007	4577	0.223
0	0.027650	240	25413	1414		

Table 3.4A. 8 MURANGA (FEMALES)

AGE	GROWTH RATE	DEATH	GIVEN POP	NEW POP	POP EST	COMPLET
A	5RA	5DA	5NA	N1A	5N1A	COMP
60	0.042190	220	23509	421		
55	0.010400	8	6812	451	2180	0.296
50	0.016710	13	8649	508	2397	0.264
45	0.017430	11	9219	565	2682	0.274
40	0.026560	13	11722	659	3060	0.255
35	0.032650	18	14495	795	3635	0.260
30	0.036170	13	16466	965	4402	0.265
25	0.027630	12	19822	1121	5217	0.267
20	0.031510	12	22670	1325	6115	0.237
15	0.050040	6	35055	1708	7582	0.213
10	0.063160	12	48272	2356	10160	0.220
5	0.039080	28	57701	2903	13147	0.244
0	0.027130	320	63307	3667		

Table 3.4A. 9 GARISSA (FEMALES)

AGE	GROWTH RATE	DEATH	GIVEN POP	NEW POP	POP EST	COMPLETE
A	5RA	5DA	5NA	N1A	5N1A	COMP
60	0.071090	9	1759	29		
55	-.148370	2	44	15	110	0 136
50	0.062720	2	1433	22	92	0.088
45	0.083980	1	1186	34	140	0.092
40	0.070810	0	2568	43	205	0.098
35	0.074280	0	2497	69	292	0.107
30	0.055390	3	4016	94	407	0.112
25	0.056650	0	4504	124	545	0.134
20	0.072330	1	5236	179	757	0.150
15	0.078880	1	7203	266	1112	0.172
10	0.068000	1	8525	374	1000	0.209
5	0.064810	0	9820	517	2227	0.268
0	0.077390	10	10548	773		

A	5RA	5DA	5NA	N1A	5N1A	COMP
60	0.036270	11	3047	15		
55	0.041170	0	1126	16	82	0.066
50	0.027710	1	1560	21	97	0.063
45	0.030650	3	1804	27	120	0.064
40	0.049810	3	2520	36	162	0.067
35	0.046460	3	3237	51	222	0.070
30	0.051240	1	4110	67	295	0.071
25	0.035500	5	5378	85	360	0.072
20	0.057680	0	6815	113	495	0.081
15	0.074880	0	7923	164	692	0.102
10	0.072660	1	8758	237	1002	0.113
5	0.063080	2	12532	327	1410	0.127
0	0.059400	61	14956	510		

Table 3.4A.12 KAKAMEGA(FEMALES)

AGE	GROWTH RATE	DEATH	GIVEN POP	NEW POP	POP EST	COMPLETE
A	5RA	5DA	5NA	N1A	5N1A	COMP
60	0.029300	211	6727	279		
55	0.021410	82	10555	344	1557	0.144
50	0.013300	21	12937	389	1852	0.133
45	0.040060	16	17406	472	2292	0.134
40	0.031750	12	19195	559	2762	0.140
35	0.011270	22	22165	645	3385	0.140
30	0.018870	29	24700	739	3460	0.130
25	0.024970	24	32359	862	4302	0.116
20	0.046170	24	44504	1112	4935	0.104
15	0.039470	29	62902	1388	6245	0.100
10	0.029170	37	75848	1643	7572	0.101
5	0.029380	70	89501	1978	9052	0.112
0	0.022490	682	101376	2934		

1979 DEATHS, POPULATION, AND RATES OF GROWTH BY AGE AND SEX. AND THE ESTIMATION OF THE DEGREES OF COMPLETENESS

Table 3.4A.10 ISIOLO (FEMALES)

AGE	GROWTH RATE	DEATH	GIVEN POP	NEW POP	POP EST	COMPLT
A	5RA	5DA	5NA	NTA	5NTA	COMP
60	0.025450	2	1040	3		
55	0.044830	0	382	3	15	0.026
50	0.053020	0	703	3	15	0.023
45	0.020500	0	581	3	15	0.019
40	0.043560	0	994	3	15	0.016
35	0.029820	0	892	3	15	0.014
30	0.028280	0	1303	3	15	0.011
25	0.027950	0	1550	3	15	0.008
20	0.058740	0	2209	4	17	0.008
15	0.052680	0	2667	5	22	0.010
10	0.009510	0	2134	5	25	0.010
5	0.026500	0	3050	5	25	0.008
0	0.068090	0	3819	7		

Table 3.4A.11 KAJIADO (FEMALES)

AGE	GROWTH RATE	DEATH	GIVEN POP	NEW POP	POP EST	COMPLET

1979, DEATHS, POPULATION, AND RATES OF GROWTH BY AGE AND SEX, AND THE ESTIMATION OF THE DEGREES OF COMPETENESS

Table 3.4A.13 KIAMBU (FEMALES)

AGE	GROWTH RATE	DEATH	GIVEN POP	NEW POP	POP EST	COMPLE
A	5RA	5DA	5NA	N1A	5N1A	COMP
60	0.021510	237	18558	301		
55	0.005030	8	5707	316	1542	0.255
50	0.010900	16	6984	360	1690	0.236
45	0.020120	9	8302	407	1917	0.217
40	0.031960	18	10962	497	2260	0.199
35	0.033670	19	14249	609	2765	0.196
30	0.037190	19	17194	754	3407	0.189
25	0.033370	19	22783	911	4162	0.179
20	0.039280	21	28874	1131	5105	0.171
15	0.055250	16	39497	1509	6600	0.175
10	0.061710	24	49274	2082	8977	0.192
5	0.034240	33	57100	2506	11470	0.220
0	0.019140	621	62440	3409		

Table 3.4A.14 KIRINYAG(FEMALES)

AGE	GROWTH RATE	DEATH	GIVEN POP	NEW POP	POP EST	COMPLET
A	5RA	5DA	5NA	N1A	5N1A	COMP
60	0.003280	90	8905	81		
55	0.025090	8	2875	100	452	0.139
50	0.039220	7	4479	129	572	0.148
45	0.014800	4	3955	143	660	0.153
40	0.016750	3	5414	158	752	0.142
35	0.007860	5	5610	169	817	0.133
30	0.029110	5	7427	200	922	0.121
25	0.022660	4	9054	223	1070	0.116
20	0.027960	4	10736	266	1235	0.101
15	0.062970	7	17274	372	1595	0.098
10	0.060720	8	21702	513	2212	0.108
5	0.027670	13	24466	603	2790	0.123
0	0.010130	146	26543	784		

Table 3.4A.15 KISII (FEMALES)

AGE	GROWTH RATE	DEATH	GIVEN POP	NEW POP	POP EST	COMPLETE
A	5RA	5DA	5NA	N1A	5N1A	COMP
60	0.010160	27	13249	13		
55	0.030030	3	5813	18	77	0.015
50	0.025260	10	7675	31	122	0.016
45	0.034250	7	11092	44	187	0.018
40	0.037160	1	13311	54	245	0.019
35	0.004420	9	15727	64	295	0.019
30	0.018860	8	19314	78	355	0.017
25	0.020140	6	27546	92	425	0.014
20	0.046830	10	40304	127	547	0.013
15	0.053000	4	60106	170	742	0.013
10	0.025660	10	65376	203	932	0.014
5	0.020350	15	76381	240	1107	0.015
0	0.025640	70	90166	347		

1979 DEATHS, POPULATION, AND RATES OF GROWTH BY AGE AND SEX, AND THE ESTIMATION OF THE DEGREES OF COMPLETENESS

Table 3.4A.16 KITUI (FEMALES)

AGE	GROWTH RATE	DEATH	GIVEN POP	NEW POP	POP EST	COMPLET
A	5RA	5DA	5NA	N1A	5N1A	COMP
60	0.032670	32	14640	59		
55	0.023240	5	4770	71	325	0.054
50	0.047520	15	9555	106	442	0.062
45	0.027660	5	6852	127	582	0.074
40	0.039670	9	10109	142	672	0.061
35	0.015570	11	13265	164	765	0.058
30	0.029630	15	15928	206	925	0.059
25	0.015370	8	17983	230	1090	0.053
20	0.019220	5	25893	258	1220	0.045
15	0.047660	3	34414	330	1470	0.045
10	0.055020	7	40303	442	1930	0.054
5	0.038660	18	40803	556	2495	0.072
0	0.023440	197	41931	834		

Table 3.4A.17 KWALE (FEMALES)

AGE	GROWTH RATE	DEATH	GIVEN POP	NEW POP	POP EST	COMPLET
A	5RA	5DA	5NA	N1A	5N1A	COMP
60	0.027290	37	5748	39		
55	0.020460	1	2378	44	207	0.080
50	0.038430	5	3391	58	255	0.073
45	0.025410	10	4697	76	335	0.073
40	0.045110	1	5823	96	430	0.072
35	0.014910	9	7441	112	520	0.069
30	0.037920	5	9307	140	630	0.065
25	0.021750	13	12173	169	772	0.066
20	0.050530	6	14502	224	962	0.075
15	0.057100	7	15383	277	1252	0.090
10	0.037560	4	15601	338	1537	0.087
5	0.034670	10	23495	412	1875	0.036
0	0.038630	63	26669	569		

Table 3.4A.18 LAMU (FEMALES)

AGE	GROWTH RATE	DEATH	GIVEN POP	NEW POP	POP EST	COMPLET
A	5RA	5DA	5NA	N1A	5N1A	COMP
60	0.021970	6	1293	7		
55	0.048510	2	307	11	45	0.103
50	0.034890	0	713	13	60	0.110
45	0.043790	2	533	18	77	0.126
40	0.035500	0	850	21	97	0.122
35	0.047750	0	906	26	117	0.123
30	0.050980	1	1257	34	150	0.123
25	0.054840	0	1554	44	195	0.134
20	0.070390	0	1870	62	265	0.163
15	0.075350	0	2099	90	380	0.223
10	0.085860	0	2157	138	570	0.252
5	0.071790	0	3434	197	837	0.286
0	0.064530	11	3693	284		

1979 DEATHS, POPULATION, AND RATES OF GROWTH BY AGE AND SEX, AND THE ESTIMATION OF THE DEGREES OF COMPLETENESS

Table 3.4A.19 MACHAKOS(FEMALES)

AGE	GROWTH RATE	DEATH	GIVEN POP	NEW POP	POP EST	COMPLE
A	5RA	5DA	5NA	N1A	5N1A	COMP
60	0.023950	217	25982	259		
55	0.022920	20	10552	311	1425	0.116
50	0.067180	21	18238	459	1925	0.137
45	0.020110	28	14027	536	2467	0.165
40	0.008090	21	16000	579	2787	0.152
35	0.031520	29	21644	709	3220	0.148
30	0.035140	25	26778	872	3952	0.139
25	0.028900	23	35915	1032	4760	0.135
20	0.052300	30	43770	1374	6015	0.136
15	0.048220	36	58669	1794	7920	0.138
10	0.044430	43	72907	2288	10205	0.143
5	0.038920	89	88948	2877	12912	0.165
0	0.026700	682	94153	4053		

Table 3.4A.20 MARSABIT(FEMALES)

AGE	GROWTH RATE	DEATH	GIVEN POP	NEW POP	POP EST	COMPLE
A	5RA	5DA	5NA	N1A	5N1A	COMP
60	0.073850	0	3272	0		
55	0.076360	0	764	0	0	0.000
50	0.065220	0	1649	0	0	0.000
45	0.063030	0	1326	0	0	0.001
40	0.072090	1	2338	1	2	0.002
35	0.053630	1	2043	2	7	0.004
30	0.058200	1	3248	3	12	0.004
25	0.055100	0	3326	3	15	0.005
20	0.068030	1	4245	5	20	0.006
15	0.078610	1	5024	8	32	0.008
10	0.064770	2	5531	13	52	0.010
5	0.062840	1	6807	13	77	0.015
0	0.060010	11	7781	40		

Table 3.4A.21 KERICHO (FEMALES)

AGE	GROWTH RATE	DEATH	GIVEN POP	NEW POP	POP EST	COMPLE
A	5RA	5DA	5NA	N1A	5N1A	COMP
60	0.008370	37	10798	41		
55	0.035050	0	4795	48	222	0.045
50	0.031520	2	6032	58	265	0.043
45	0.034720	0	7582	68	315	0.041
40	0.039820	1	9419	84	380	0.040
35	0.020450	2	11007	95	447	0.038
30	0.035820	1	14830	114	522	0.032
25	0.026330	1	20542	131	612	0.027
20	0.038280	3	28592	161	730	0.024
15	0.042980	0	39013	199	900	0.024
10	0.025060	5	41772	230	1072	0.024
5	0.022740	13	53517	271	1252	0.026
0	0.029780	143	63697	468		

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Table 3.4A.22 KILIFI (FEMALES)

AGE	GROWTH RATE	DEATH	GIVEN POP	NEW POP	POP EST	COMPLETE
A	5RA	5DA	5NA	N1A	5N1A	COMP
60	0.010590	9	9585	10		
55	0.015890	0	4042	10	50	0.011
50	0.022090	1	5857	12	55	0.009
45	0.043060	1	8002	15	67	0.009
40	0.035110	1	9220	18	82	0.008
35	0.011190	0	11404	19	92	0.007
30	0.032130	1	14895	23	105	0.007
25	0.020470	0	18312	25	120	0.006
20	0.050390	0	23693	32	142	0.007
15	0.038010	2	22291	40	180	0.009
10	0.039020	1	23323	49	222	0.009
5	0.035400	1	34033	59	270	0.009
0	0.040610	16	40942	89		

Table 3.4A.23 LAIKIPIA(FEMALES)

AGE	GROWTH RATE	DEATH	GIVEN POP	NEW POP	POP EST	COMPLETE
A	5RA	5DA	5NA	N1A	5N1A	COMP
60	0.070170	7	2913	17		
55	0.080680	1	1098	26	107	0.107
50	0.080630	2	1467	41	167	0.132
45	0.059300	1	1643	56	242	0.153
40	0.062710	2	2105	78	335	0.163
35	0.075280	2	2902	116	485	0.189
30	0.077020	2	3478	172	720	0.214
25	0.055690	2	4557	229	1002	0.243
20	0.061240	3	5158	314	1357	0.288
15	0.089300	2	6565	493	2017	0.346
10	0.095940	1	8577	797	3225	0.405
5	0.071930	1	11343	1143	4850	0.480
0	0.064120	43	13200	1625		

Table 3.4A.24 MERU (FEMALES)

AGE	GROWTH RATE	DEATH	GIVEN POP	NEW POP	POP EST	COMPLET
A	5RA	5DA	5NA	N1A	5N1A	COMP
60	0.041670	64	19353	63		
55	0.026800	5	7435	77	350	0.045
50	0.030890	13	10483	103	450	0.045
45	0.025360	5	12186	122	562	0.048
40	0.065750	9	15320	180	755	0.053
35	0.021340	6	17371	206	965	0.054
30	0.037980	14	22595	264	1175	0.050
25	0.029550	13	29872	320	1460	0.049
20	0.038910	10	36752	399	1797	0.046
15	0.044560	16	48685	516	2287	0.051
10	0.040060	15	53736	647	2907	0.053
5	0.031800	23	67803	783	3575	0.057
0	0.035210	224	80018	1173		

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Table 3.4A.25 MOMBASA (FEMALES)

AGE	GROWTH RATE	DEATH	GIVEN POP	NEW POP	POP EST	COMPLE
A	5RA	5DA	5NA	N1A	5N1A	COMP
60	0.021320	122	3891	135		
55	0.042820	16	2070	135	800	0.371
50	0.042820	26	3075	258	1107	0.360
45	0.039090	16	4080	331	1472	0.359
40	0.032300	20	5173	410	1852	0.358
35	0.029430	18	6901	484	2235	0.292
30	0.035110	19	10027	597	2702	0.236
25	0.034540	26	15519	737	3335	0.214
20	0.045670	30	19878	960	4242	0.251
15	0.039670	25	18496	1198	5395	0.359
10	0.045340	8	15422	1511	6772	0.416
5	0.035030	29	20929	1831	8355	0.422
0	0.038990	437	25724	2706		

Table 3.4A.26 NAIROBI (FEMALES)

AGE	GROWTH RATE	DEATH	GIVEN POP	NEW POP	POP EST	COMPLE
A	5RA	5DA	5NA	N1A	5N1A	COMP
60	0.029900	250	5858	324		
55	0.022540	26	2751	390	1785	0.558
50	0.011380	42	4243	456	2115	0.466
45	0.020840	37	5666	545	2502	0.383
40	0.036860	31	8929	689	3085	0.389
35	0.037740	46	13766	882	3927	0.351
30	0.054870	35	22620	1200	5205	0.293
25	0.061410	63	38754	1704	7260	0.191
20	0.061980	55	53016	2387	10227	0.244
15	0.063750	57	47472	3349	14340	0.401
10	0.057650	48	37407	4523	19680	0.543
5	0.045500	55	46136	5740	25657	0.559
0	0.049500	862	62606	8327		

Table 3.4A.27 NAKURU (FEMALES)

AGE	GROWTH RATE	DEATH	GIVEN POP	NEW POP	POP EST	COMPLE
A	5RA	5DA	5NA	N1A	5N1A	COMP
60	0.058520	17	9463	33		
55	0.057310	0	3810	43	190	0.051
50	0.054840	3	5020	60	257	0.055
45	0.051520	1	5857	78	345	0.060
40	0.059330	3	7660	108	465	0.060
35	0.061190	1	10757	147	637	0.063
30	0.061360	7	13264	207	885	0.065
25	0.044960	4	18207	263	1175	0.067
20	0.059260	1	22503	354	1542	0.073
15	0.079890	3	29181	531	2212	0.067
10	0.081310	3	34311	801	3330	0.103
5	0.059090	7	43787	1084	4712	0.120
0	0.054010	106	50173	1541		

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Table 3.4A.28 NANDI (FEMALES)

AGE	GROWTH RATE	DEATH	GIVEN POP	NEW POP	POP EST	COMPLET
A	5RA	5DA	5NA	N1A	5N1A	COMP
60	0.018360	5	8287	6		
55	0.039290	0	2387	7	32	0.011
50	0.020350	0	3106	7	35	0.010
45	0.015240	0	3906	7	35	0.008
40	0.024240	0	4581	7	35	0.007
35	0.028350	0	6027	8	37	0.006
30	0.031260	0	7175	9	42	0.005
25	0.026640	0	9711	10	47	0.005
20	0.038230	1	12071	13	57	0.004
15	0.050950	0	16740	16	72	0.005
10	0.046570	2	19299	22	95	0.005
5	0.040950	1	24708	28	125	0.006
0	0.038950	16	29351	51		

Table 3.4A.29 NAROK (FEMALES)

AGE	GROWTH RATE	DEATH	GIVEN POP	NEW POP	POP EST	COMPLETE
A	5RA	5DA	5NA	N1A	5N1A	COMP
60	0.004680	2	4177	2		
55	0.036520	0	1739	2	10	0.005
50	0.028800	0	2306	2	10	0.005
45	0.047460	2	3136	4	15	0.005
40	0.037620	0	3671	4	20	0.005
35	0.030740	1	4723	5	22	0.005
30	0.044490	1	6057	7	30	0.005
25	0.037020	1	7735	9	40	0.006
20	0.057250	2	9629	14	57	0.007
15	0.065100	2	10230	21	87	0.010
10	0.057720	3	12133	31	130	0.011
5	0.060010	3	18175	45	190	0.014
0	0.063120	32	21860	99		

Table 3.4A.30 NYANDARU(FEMALES)

AGE	GROWTH RATE	DEATH	GIVEN POP	NEW POP	POP EST	COMPLETE
A	5RA	5DA	5NA	N1A	5N1A	COMP
60	0.029900	7	5215	8		
55	0.010040	0	1353	8	40	0.019
50	0.026260	0	2510	9	42	0.017
45	0.025890	1	2937	11	50	0.016
40	0.024970	1	3783	13	60	0.014
35	0.046280	0	5792	15	72	0.014
30	0.027830	1	5783	19	87	0.015
25	-.010900	1	6246	18	92	0.013
20	0.004700	0	7530	18	90	0.010
15	0.060910	2	12364	26	110	0.009
10	0.071950	2	18850	39	162	0.009
5	0.029450	2	21574	47	215	0.011
0	0.011500	21	23508	71		

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Table 3.4A.31 NYERI (FEMALES)

AGE	GROWTH RATE	DEATH GIVEN	POP	NEW POP	POP EST	COMPL
A	5RA	5DA	5NA	N1A	5N1A	COMP
60	0.014200	282	17217	333		
55	0.010550	22	5022	373	1765	0.324
50	0.019980	15	6583	427	2000	0.318
45	0.010290	13	6709	462	2222	0.308
40	0.023570	17	8588	537	2497	0.285
35	0.031300	19	10549	648	2962	0.284
30	0.040370	13	12723	807	3637	0.293
25	0.020940	13	14297	909	4290	0.293
20	0.018090	14	16723	1009	4795	0.239
15	0.056890	18	28105	1361	5925	0.208
10	0.066910	10	39573	1913	8185	0.224
5	0.026490	17	42716	2202	10267	0.259
0	0.007680	298	43261	2591		

Table 3.4A.32 TAITA (FEMALES)

AGE	GROWTH RATE	DEATH GIVEN	POP	NEW POP	POP EST	COMPLET
A	5RA	5DA	5NA	N1A	5N1A	COMP
60	0.023190	10	3406	15		
55	0.050320	0	1879	19	85	0.048
50	0.033960	1	2114	23	105	0.050
45	0.022900	2	2497	27	125	0.050
40	0.036710	1	2997	33	150	0.051
35	0.014130	3	3395	38	177	0.052
30	0.022210	1	3896	43	202	0.049
25	0.016970	0	4813	46	222	0.045
20	0.033980	1	5627	55	252	0.040
15	0.039450	0	8301	66	302	0.035
10	0.042260	0	10852	81	367	0.034
5	0.033650	2	12784	98	447	0.039
0	0.016150	15	12613	121		

Table 3.4A.33 TANA R (FEMALES)

AGE	GROWTH RATE	DEATH GIVEN	POP	NEW POP	POP EST	COMPLET
A	5RA	5DA	5NA	N1A	5N1A	COMP
60	0.041910	1	1805	2		
55	0.031290	0	629	2	10	0.012
50	0.066030	1	1198	3	12	0.011
45	0.053310	0	1226	3	15	0.010
40	0.027740	0	1798	3	15	0.008
35	0.044680	0	1926	3	15	0.006
30	0.055440	0	2829	3	15	0.005
25	0.053920	0	3496	3	15	0.004
20	0.069640	0	4286	4	17	0.004
15	0.078650	0	5105	5	22	0.005
10	0.063090	0	5523	6	27	0.004
5	0.055240	0	7617	7	32	0.006
0	0.056110	8	8309	16		

1979 DEATHS, POPULATION, AND RATES OF GROWTH BY AGE AND SEX, AND THE ESTIMATION OF THE DEGREES OF COMPLETENESS

Table 3.4A.34 T NZOIA (FEMALES)

AGE	GROWTH RATE	DEATH	GIVEN POP	NEW POP	POP EST	COMP
A	5RA	5DA	5NA	N1A	5N1A	COMP
60	0.076320	10	3767	27		
55	0.088800	1	1796	43	175	0.110
50	0.082460	2	2306	67	275	0.122
45	0.087830	0	3413	103	425	0.145
40	0.079590	2	3986	156	647	0.171
35	0.060870	1	5187	212	920	0.189
30	0.066170	1	6427	296	1270	0.201
25	0.061410	1	8551	405	1747	0.213
20	0.065600	3	11651	621	2560	0.252
15	0.068770	1	14261	969	3975	0.318
10	0.087520	1	17625	1502	6177	0.387
5	0.074610	8	22159	2190	9230	0.462
0	0.071180	42	26833	3176		

Table 3.4A.35 TURKANA (FEMALES)

AGE	GROWTH RATE	DEATH	GIVEN POP	NEW POP	POP EST	COMPLE
A	5RA	5DA	5NA	N1A	5N1A	COMP
60	-.041640	0	1460	0		
55	-.017650	0	912	0	0	0.001
50	-.024390	2	1477	1	2	0.002
45	-.006440	1	2285	1	5	0.002
40	-.024700	1	2713	1	5	0.001
35	-.028290	1	4065	1	5	0.001
30	-.011870	1	5419	1	5	0.001
25	-.000110	0	7118	0	2	0.000
20	-.004280	1	7624	0	0	0.000
15	-.192720	0	8431	0	0	0.000
10	-.148200	0	8706	0	0	0.000
5	-.004160	0	10366	0	0	0.001
0	0.009730	6	9852	0		

Table 3.4A.36 U GISHU (FEMALES)

AGE	GROWTH RATE	DEATH	GIVEN POP	NEW POP	POP EST	COMPLE
A	5RA	5DA	5NA	N1A	5N1A	COMP
60	0.046590	58	5405	124		
55	0.060520	3	2207	171	757	0.340
50	0.043850	0	2769	212	957	0.340
45	0.039910	2	3519	261	1182	0.329
40	0.047470	0	4554	330	1477	0.309
35	0.045360	6	6288	420	1875	0.307
30	0.043080	1	7503	522	2355	0.289
25	0.026400	8	10388	604	2815	0.265
20	0.046740	3	13252	774	3445	0.266
15	0.061330	4	16804	1056	4575	0.296
10	0.060210	3	19502	1430	6215	0.320
5	0.045570	3	25080	1799	8072	0.346
0	0.041290	168	28553	2397		

1979 DEATHS, POPULATION, AND RATES OF GROWTH BY AGE AND SEX, AND THE ESTIMATION OF THE DEGREES OF COMPLETENESS

Table 3.4A.37 W POKOT (FEMALES)

AGE	GROWTH RATE	DEATH	GIVEN POP	NEW POP	POP EST	COMPLETE
A	5RA	5DA	5NA	N1A	5N1A	COMP
60	0.062400	9	2945	17		
55	0.070790	0	1366	24	102	0.072
50	0.068600	1	2091	35	147	0.076
45	0.051400	0	2476	45	200	0.089
40	0.046920	2	2665	59	260	0.097
35	0.054090	1	3538	78	342	0.099
30	0.079800	2	4384	118	490	0.103
25	0.051650	4	6562	157	687	0.115
20	0.067160	6	7795	226	957	0.146
15	0.068920	4	8158	323	1372	0.185
10	0.076780	6	10167	481	2010	0.215
5	0.060640	1	12397	652	2832	0.251
0	0.064940	55	14982	966		

Table 3.4A.38 SIAYA (FEMALES)

AGE	GROWTH RATE	DEATH	GIVEN POP	NEW POP	POP EST	COMPLETE
A	5RA	5DA	5NA	N1A	5N1A	COMP
60	0.020120	432	14998	0		
55	0.026740	56	7300	59	147	0.035
50	0.021680	54	9644	122	452	0.048
45	0.079070	62	19606	256	945	0.067
40	0.075320	40	20015	421	1692	0.106
35	0.032160	36	18543	533	2335	0.136
30	0.057220	29	22418	745	3190	0.157
25	0.056100	29	25932	1015	4397	0.220
20	0.028440	31	19315	1204	5550	0.266
15	0.039460	29	26900	1495	6755	0.251
10	0.031100	27	32588	1779	8192	0.254
5	0.021500	84	37420	2069	9620	0.300
0	0.014550	1240	41174	3511		

1979, DEATHS, POPULATION, AND RATES OF GROWTH BY AGE AND SEX, AND THE ESTIMATION OF THE DEGREES OF COMPETENESS

Table 3.4B.22 KENYA (MALES

AGE	GROWTH RATE	DEATH	GIVEN POP	NEW POP	POP EST	COMPLETE
A	5RA	5DA	5NA	N1A	5N1A	COMP
60	0.016110	5128	362497	6420		
55	0.020720	675	141067	7331	35627	0.248
50	0.032470	763	183285	10038	44672	0.248
45	0.024030	638	219365	11997	55087	0.253
40	0.030090	629	262019	14622	66547	0.260
35	0.014280	578	290825	16303	77312	0.242
30	0.036870	558	406221	20215	91295	0.222
25	0.038840	566	515512	25171	113465	0.220
20	0.040660	452	642723	31345	141290	0.212
15	0.042390	427	855834	39219	176410	0.207
10	0.038760	445	1053099	48096	218287	0.209
5	0.031000	383	1249662	57027	262307	0.221
0	0.029770	7739	1424954	74516		

Table 3.4B. 2 BARINGO (MALES)

AGE	GROWTH RATE	DEATH	GIVEN POP	NEW POP	POP EST	COMPLETE
A	5RA	5DA	5NA	N1A	5N1A	COMP
60	0.009360	13	5125	10		
55	0.002640	3	2069	13	57	0.031
50	0.002110	5	2294	18	77	0.034
45	0.004450	5	3030	23	102	0.037
40	0.020170	4	3268	29	130	0.040
35	0.006320	3	3804	32	152	0.036
30	0.039540	4	5496	43	187	0.035
25	0.027100	6	6836	55	245	0.037
20	0.033170	5	8041	70	312	0.035
15	0.030670	2	11737	66	390	0.033
10	0.024110	4	14325	101	467	0.032
5	0.018150	4	16575	114	537	0.034
0	0.024320	30	19016	160		

Table 3.4B. 3 BUNGOMA (MALES)

AGE	GROWTH RATE	DEATH	GIVEN POP	NEW POP	POP EST	COMPLETE
A	5RA	5DA	5NA	N1A	5N1A	COMP
60	0.023120	182	8684	222		
55	0.030850	18	3254	278	1250	0.385
50	0.042350	20	4158	365	1607	0.366
45	0.041100	23	5961	473	2095	0.365
40	0.027930	28	6958	573	2615	0.401
35	0.017430	22	7160	648	3052	0.409
30	0.033330	20	9073	787	3567	0.397
25	0.051650	19	11477	1040	4567	0.367
20	0.046910	16	17136	1332	5930	0.326
15	0.047400	23	24362	1714	7615	0.311
10	0.037070	25	30705	2090	9510	0.314
5	0.032060	50	36091	2507	11492	0.329
0	0.036460	451	44597	3502		

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Table 3.4B. 4 BUSIA (MALES)

AGE	GROWTH RATE	DEATH	GIVEN POP	NEW POP	POP EST	COMPLETE
A	5RA	5DA	5NA	N1A	5N1A	COMP
60	0.009700	125	7479	112		
55	0.035450	26	3129	162	685	0.235
50	0.049750	29	4049	240	1005	0.278
45	0.044310	20	4615	321	1402	0.341
40	0.038440	22	4391	413	1855	0.410
35	0.015900	11	4892	458	2177	0.430
30	0.039670	6	6110	563	2552	0.437
25	0.045430	5	7036	712	3137	0.441
20	0.058080	4	9652	956	4170	0.375
15	0.061800	8	16564	1311	5667	0.353
10	0.040710	8	20250	1615	7315	0.109
5	0.020720	675	141067	2502	10292	0.145
0	0.034600	202	28024	3194		

Table 3.4B. 5 KISUMU (MALES)

AGE	GROWTH RATE	DEATH	GIVEN POP	NEW POP	POP EST	COMPLETE
A	5RA	5DA	5NA	N1A	5N1A	COMP
60	0.019870	171	1229	15		
55	0.006730	53	5301	69	210	0.059
50	0.013370	56	6761	131	500	0.086
45	0.005490	45	8147	160	777	0.106
40	0.014630	41	8935	236	1040	0.123
35	-.010250	36	9609	258	1235	0.114
30	0.022690	26	13822	316	1435	0.104
25	0.018880	28	16579	376	1730	0.101
20	0.013580	24	20533	427	2007	0.091
15	0.015680	22	26425	484	2277	0.084
10	0.013890	18	31093	537	2552	0.081
5	0.013640	39	35068	615	2880	0.090
0	0.023560	339	42374	1051		

Table 3.4B. 6 ELGEYO M(MALES)

AGE	GROWTH RATE	DEATH	GIVEN POP	NEW POP	POP EST	COMPLETE
A	5RA	5DA	5NA	N1A	5N1A	COMP
60	-.023990	8	4781	0		
55	-.005880	0	1617	0	0	0.000
50	-.004480	1	1942	0	0	0.000
45	-.028520	0	2245	0	0	0.000
40	-.004280	2	2357	1	2	0.001
35	-.023570	1	2773	1	5	0.003
30	0.008210	3	3863	4	12	0.003
25	-.009250	0	5026	3	17	0.003
20	-.006090	2	5720	4	17	0.003
15	-.007440	1	8411	4	20	0.002
10	-.014910	3	10089	6	25	0.003
5	-.001120	2	11915	7	32	0.007
0	-.004690	41	12801	47		

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Table 3.4B. 7 EMBU (MALES)

AGE	GROWTH RATE	DEATH GIVEN	POP	NEW POP	POP EST	COMPLETE
A	5RA	5DA	5NA	N1A	5N1A	COMP
60	0.014080	95	6310	92		
55	0.026830	8	2150	113	512	0.235
50	0.039690	10	2796	148	652	0.245
45	0.042970	12	3381	196	860	0.265
40	0.039550	12	4076	252	1120	0.299
35	0.025780	15	4290	302	1385	0.304
30	0.038100	10	5855	376	1695	0.280
25	0.054580	11	8095	506	2205	0.295
20	0.047680	9	9177	652	2895	0.278
15	0.057420	14	15013	804	3840	0.265
10	0.054930	9	18918	1173	5142	0.282
5	0.035630	21	22394	1424	6492	0.311
0	0.026320	259	25411	1918		

Table 3.4B. 8 MURANGA (MALES)

AGE	GROWTH RATE	DEATH GIVEN	POP	NEW POP	POP EST	COMPLETE
A	5RA	5DA	5NA	N1A	5N1A	COMP
60	0.010100	318	19763	335		
55	0.022210	21	5674	394	1817	0.333
50	0.032160	28	6439	493	2217	0.362
45	0.035270	24	7324	614	2767	0.391
40	0.049450	9	8769	796	3525	0.424
35	0.043190	18	10158	1007	4507	0.439
30	0.062790	17	13813	1398	6012	0.485
25	0.047200	20	15046	1792	7975	0.540
20	0.033450	21	17900	2141	9852	0.426
15	0.053140	15	34259	2809	12375	0.346
10	0.058100	14	48996	3772	16452	0.348
5	0.039750	34	58660	4638	21025	0.363
0	0.027980	353	63809	5713		

Table 3.4B. 9 GARISSA (MALES)

AGE	GROWTH RATE	DEATH GIVEN	POP	NEW POP	POP EST	COMPLETE
A	5RA	5DA	5NA	N1A	5N1A	COMP
60	0.048870	13	1759	24		
55	0.025290	2	443	29	132	0.161
50	0.048590	2	1437	39	170	0.146
45	0.022850	3	1183	46	212	0.127
40	0.054100	0	2563	60	265	0.124
35	0.066900	1	2497	85	362	0.134
30	0.060090	5	4016	120	512	0.144
25	0.059670	3	4504	165	712	0.169
20	0.047890	1	5256	210	937	0.172
15	0.053620	0	7204	274	1210	0.176
10	0.048320	2	8523	351	1562	0.195
5	0.051270	2	9820	455	2015	0.234
0	0.062660	18	10548	643		

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Table 3.48.10 ISIOLO (MALES)

AGE	GROWTH RATE	DEATH GIVEN	POP	NEW POP	POP EST	COMPLETE
A	5RA	5DA	5NA	N1A	5N1A	COMP
60	0.026340	0	963	0		
55	0.041260	0	420	0	0	0.000
50	0.035560	0	655	0	0	0.000
45	0.041520	0	777	0	0	0.000
40	0.072200	0	960	0	0	0.000
35	0.010540	0	920	0	0	0.000
30	0.014440	0	1264	0	0	0.000
25	0.041740	0	1685	0	0	0.000
20	0.052070	1	2417	1	2	0.001
15	0.032110	0	2461	1	5	0.002
10	0.012220	0	2487	1	5	0.002
5	0.023720	0	3083	1	5	0.002
0	0.066720	3	3923	4		

Table 3.48.11 KAJIADO (MALES)

AGE	GROWTH RATE	DEATH GIVEN	POP	NEW POP	POP EST	COMPLETE
A	5RA	5DA	5NA	N1A	5N1A	COMP

60	0.026310	31	3203	41		
55	0.036370	1	1302	50	227	0.166
45	0.031160	5	1722	63	282	0.159
45	0.033950	3	2265	77	350	0.162
40	0.040660	5	2610	99	440	0.172
35	0.028630	5	3109	119	545	0.178
30	0.049620	4	3835	157	690	0.175
25	0.054610	4	5354	210	917	0.185
20	0.062840	6	6398	294	1260	0.210
15	0.057380	4	7805	396	1725	0.229
10	0.063610	5	10025	550	2365	0.246
5	0.061150	12	12903	760	3275	0.289
0	0.058730	76	14607	1107		

Table 3.48.12 KAKAMEGA(MALES)

AGE	GROWTH RATE	DEATH	GIVEN POP	NEW POP	POP EST	COMPLETE
A	5RA	5DA	5NA	N1A	5N1A	COMP
60	0.015490	425	28899	472		
55	0.013560	56	9508	563	2587	0.116
50	0.025860	57	40196	701	3160	0.133
45	0.024290	43	12321	837	3845	0.326
40	0.021650	39	13375	973	4525	0.352
35	0.006200	30	13752	1034	5017	0.331
30	0.033200	37	18723	1260	5735	0.299
25	0.044490	34	24476	1611	7177	0.274
20	0.039670	31	34553	1998	9022	0.215
15	0.034370	28	58453	2403	11002	0.177
10	0.025080	42	76536	2768	12927	0.170
5	0.027190	91	88490	3268	15090	0.183
0	0.021430	815	100354	4497		

1979 DEATHS, POPULATION, AND RATES OF GROWTH BY AGE AND SEX, AND THE ESTIMATION OF THE DEGREES OF COMPLETENESS

Table 3.4B.13 KERICHO (MALES)

AGE	GROWTH RATE	DEATH	GIVEN POP	NEW POP	POP EST	COMPLETE
A	5RA	5DA	5NA	N1A	5N1A	COMP
60	0.004320	50	11412	48		
55	0.030310	3	5369	59	207	0.051
50	0.020470	6	6262	71	325	0.048
45	0.015970	2	8363	73	372	0.042
40	0.041050	11	11641	107	462	0.043
35	0.002790	4	11644	112	547	0.039
30	0.030660	6	18315	157	622	0.033
25	0.027220	3	23552	160	742	0.031
20	0.032020	5	29504	193	862	0.029
15	0.039270	5	37867	240	1082	0.030
10	0.025940	7	41865	260	1300	0.029
5	0.020650	13	53397	324	1510	0.031
0	0.031210	159	64324	550		

Table 3.4B.14 KILIFI (MALES)

AGE	GROWTH RATE	DEATH	GIVEN POP	NEW POP	POP EST	COMPLETE
A	5RA	5DA	5NA	N1A	5N1A	COMP
60	0.006560	9	12379	5		
55	0.014710	1	4679	6	27	0.006
50	0.024090	2	5698	8	35	0.006
45	0.035670	2	7416	11	47	0.007
40	0.030410	0	7452	12	57	0.007
35	0.006540	1	8704	13	62	0.007
30	0.038250	1	10512	16	72	0.007
25	0.041280	0	13766	19	87	0.007
20	0.045750	0	14417	23	105	0.007
15	0.042140	2	19806	30	132	0.007
10	0.037860	0	25630	36	165	0.006
5	0.034810	2	35176	45	202	0.007
0	0.028280	22	39724	75		

Table 3.4B.15 KIRINYAG(MALES)

AGE	GROWTH RATE	DEATH	GIVEN POP	NEW POP	POP EST	COMPLETE
A	5RA	5DA	5NA	N1A	5N1A	COMP
60	0.003410	119	7817	105		
55	0.014110	7	2637	119	560	0.199
50	0.035150	11	3604	153	680	0.209
45	0.010390	11	3546	172	812	0.225
40	0.010360	5	4045	186	895	0.214
35	0.009420	9	4682	204	975	0.186
30	0.034800	9	6662	252	1140	0.167
25	0.037790	6	8612	311	1407	0.162
20	0.034860	6	10706	376	1717	0.139
15	0.056770	4	17527	504	2200	0.131
10	0.057650	6	21851	679	2957	0.144
5	0.029480	17	24476	805	3710	0.167
0	0.013670	265	26820	1136		

60	0.066340	2	3345	4		
55	0.061960	0	394	5	22	0.020
5.	0.055570	1	1710	7	30	0.020
45	0.070290	0	1743	9	40	0.024
40	0.059600	3	2347	15	60	0.032
35	0.052500	0	2157	19	85	0.038
30	0.042440	0	2648	25	105	0.040
25	0.046960	1	3133	30	132	0.041
20	0.052450	2	4371	41	177	0.042
15	0.054320	0	5342	55	235	0.047
10	0.047630	1	6028	68	302	0.054
5	0.055740	2	6972	92	400	0.067
0	0.076740	14	7968	151		

Table 3.48.18 LAIKIPIA(MALES)

AGE	GROWTH RATE	DEATH	GIVEN POP	NEW POP	POP EST	COMPLETE
A	5RA	5DA	5NA	N1A	5N1A	COMP
60	0.061340	17	3 7	0		
55	0.057550	1	1362	54	235	0.187
50	0.065370	4	1665	79	332	0.222
45	0.040000	2	1817	98	442	0.234
40	0.060750	1	2542	133	577	0.245
35	0.053460	4	2992	178	777	0.265
30	0.062060	2	3925	245	1057	0.285
25	0.055570	1	4773	324	1422	0.324
20	0.071930	0	5703	404	1970	0.387
15	0.087090	2	7043	719	2957	0.463
10	0.100420	3	9647	1191	4775	0.565
5	0.070490	3	11571	1697	7220	0.702
0	0.057400	52	13036	2321		

1979 DEATHS, POPULATION, AND RATES OF GROWTH BY AGE AND SEX, AND THE ESTIMATION OF THE DEGREES OF COMPLETENESS

Table 3.48.16 MACHAKOS(MALES)

AGE	GROWTH RATE	DEATH	GIVEN POP	NEW POP	POP EST	COMPLETE
A	5RA	5DA	5NA	N1A	5N1A	COMP
60	0.029820	318	25764	428		
55	0.011910	36	9403	491	2297	0.239
50	0.046450	54	12416	660	2967	0.281
45	0.013310	36	10860	704	3610	0.304
40	0.022520	42	14724	899	4157	0.304
35	0.025440	43	15141	1065	4912	0.297
30	0.045520	29	21371	1359	6067	0.284
25	0.046210	44	27193	1774	7857	0.264
20	0.052150	43	36850	2351	10312	0.245
15	0.047780	42	60092	3032	13457	0.227
10	0.040270	57	74129	3771	17067	0.233
5	0.037690	94	89569	4656	21067	0.261
0	0.029920	737	94917	6201		

Table 3.48.17 MARSABIT(MALES)

AGE	GROWTH RATE	DEATH	GIVEN POP	NEW POP	POP EST	COMPLETE
A	5RA	5DA	5NA	N1A	5N1A	COMP

60	.006970	116	20217	91		
55	0.036070	12	8141	122	532	0.074
50	0.041640	31	9497	164	705	0.082
45	0.009570	13	11708	206	975	0.086
40	0.059190	20	13544	272	1195	0.093
35	0.018240	19	15082	317	1472	0.090
30	0.042570	23	21523	417	1835	0.086
25	0.042930	18	27624	536	2362	0.089
20	0.057540	11	32923	658	2965	0.065
15	0.040220	12	45917	817	3667	0.062
10	0.035430	18	54077	995	4530	0.082
5	0.029190	29	67523	1162	5442	0.085
0	0.035630	259	80713	1695		

Table 3.4B.21 MOMBASA (MALES)

AGE	GROWTH RATE	DEATH	GIVEN POP	NEW POP	POP EST	COMPLETE
A	5RA	5DA	5NA	N1A	5N1A	COMP
60	0.009330	242	4793	205		
55	0.029600	54	3148	295	1250	0.361
50	0.042600	61	5353	432	1817	0.326
45	0.031060	51	7814	559	2477	0.647
40	0.037240	56	1010	734	3232	0.536
35	0.005490	50	12196	805	3847	0.283
30	0.027060	46	17036	970	4437	0.243
25	0.033520	39	23450	1189	5397	0.246
20	0.034640	24	25247	1440	6572	0.322
15	0.013460	27	18571	1563	7520	0.470
10	0.025460	26	15398	1808	8440	0.509
5	0.032160	28	20617	2153	9902	0.493
0	0.034530	516	26221	3121		

1979 DEATHS, POPULATION, AND RATES OF GROWTH BY AGE AND SEX, AND THE ESTIMATION OF THE DEGREES OF COMPLETENESS

Table 3.48.19 LAMU (MALES)

AGE	GROWTH RATE	DEATH GIVEN POP	NEW POP	POP EST	COMPLETE
A	5RA	5DA	5NA	N1A	5N1A	COMP
60	0.020560	6	1273	7		
55	0.051630	0	429	9	40	0.079
50	0.053460	0	710	11	50	0.085
45	0.061790	3	729	16	72	0.110
40	0.056550	1	905	25	107	0.120
35	0.060400	0	1094	33	145	0.139
30	0.072520	0	1396	47	200	0.156
25	0.074720	0	1729	68	267	0.204
20	0.082460	1	1602	105	432	0.279
15	0.091770	0	2168	106	677	0.378
10	0.082690	0	2360	250	1040	0.432
5	0.066330	0	3494	348	1495	0.511
0	0.062640	12	3529	490		

Table 3.48.20 MERU (MALES)

AGE	GROWTH RATE	DEATH GIVEN POP	NEW POP	POP EST	COMPLETE
A	5RA	5DA	5NA	N1A	5N1A	COMP

1979, DEATHS, POPULATION, AND RATES OF GROWTH BY AGE AND SEX, AND THE ESTIMATION OF THE DEGREES OF COMPETENESS

Table 3.4B.1 NAIROBI (MALES)

AGE	GROWTH RATE	DEATH	GIVEN POP	NEW POP	POP EST	COMPLETE
A	5RA	5DA	5NA	N1A	5N1A	COMP
60	0.018100	438	8686	349		
55	0.032895	68	7063	506	2157	0.272
50	0.037530	93	11966	712	3045	0.235
45	0.031560	95	16514	936	4120	0.220
40	0.036440	106	24845	1239	5437	0.219
35	0.020940	102	31182	1483	6805	0.190
30	0.050030	120	50907	2040	8307	0.176
25	0.059600	140	69295	2911	12377	0.199
20	0.059560	100	80272	4036	17367	0.336
15	0.048520	64	40202	5216	23150	0.738
10	0.046150	49	31243	6624	29600	0.890
5	0.040330	74	43653	8185	37022	0.816
0	0.045450	981	61607	11372		

Table 3.4B.23 NAKURU (MALES)

AGE	GROWTH RATE	DEATH	GIVEN POP	NEW POP	POP EST	COMPLETE
A	5RA	5DA	5NA	N1A	5N1A	COMP
60	0.051660	51	10842	107		
55	0.040290	7	4731	133	612	0.133
50	0.050350	9	5991	187	812	0.137
45	0.035550	6	7548	229	1040	0.137
40	0.046550	9	9635	299	1320	0.139
35	0.029030	4	11475	350	1622	0.132
30	0.048650	7	16046	454	2010	0.127
25	0.046700	10	20243	584	2595	0.136
20	0.059460	7	24235	794	3445	0.158
15	0.066170	6	27719	1112	4765	0.185
10	0.076150	4	35010	1631	6657	0.200
5	0.069830	7	43830	2320	9877	0.236
0	0.053260	99	50865	3140		

Table 3.4B.24 NANDI (MALES)

AGE	GROWTH RATE	DEATH	GIVEN POP	NEW POP	POP EST	COMPLETE
A	5RA	5DA	5NA	N1A	5N1A	COMP
60	0.004000	16	8154	16		
55	0.014960	1	3274	13	65	0.026
50	0.036780	0	3848	21	97	0.025
45	0.005930	1	4302	22	107	0.024
40	0.025270	2	5255	27	122	0.023
35	0.025450	1	6511	31	145	0.021
30	0.036870	0	8145	37	170	0.020
25	0.030420	0	10440	43	200	0.019
20	0.046670	0	13101	54	242	0.019
15	0.048690	1	15625	70	310	0.020
10	0.038370	1	19535	85	387	0.018
5	0.040320	1	29018	105	475	0.019
0	0.038280	18	29018	146		

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Table 3.43.25 NAROK (MALES)

AGE	GROWTH RATE	DEATH	GIVEN POP	NEW POP	POP EST	COMPLETE
A	5RA	5DA	5NA	N1A	5N1A	COMP
60	0.010380	6	4836	5		
55	0.037320	0	2119	6	27	0.013
50	0.056020	0	2427	7	32	0.013
45	0.029150	3	3279	11	45	0.016
40	0.049380	1	3703	15	65	0.020
35	0.053280	4	4479	24	97	0.025
30	0.053690	2	5173	33	142	0.027
25	0.046860	0	6776	41	165	0.030
20	0.069990	3	7770	61	255	0.034
15	0.052500	0	10283	79	350	0.033
10	0.055630	0	14050	104	457	0.035
5	0.057520	6	18437	145	622	0.040
0	0.059620	43	21345	245		

Table 3.43.26 NYANDARU(MALES)

AGE	GROWTH RATE	DEATH	GIVEN POP	NEW POP	POP EST	COMPLETE
A	5RA	5DA	5NA	N1A	5N1A	COMP
60	0.022050	30	5234	42		
55	0.000000	4	1941	47	222	0.110
50	0.025160	2	2406	55	255	0.102
45	0.012430	2	2917	60	267	0.092
40	0.020100	1	3680	67	317	0.088
35	0.002900	1	3748	68	337	0.082
30	-.002150	0	4422	67	337	0.069
25	0.000380	0	5250	67	335	0.056
20	0.007160	0	6746	69	340	0.037
15	0.049780	1	12916	89	395	0.028
10	0.066930	1	19742	125	535	0.029
5	0.031690	5	22216	151	690	0.033
0	0.010920	22	23635	162		

Table 3.43.27 NYERI (MALES)

AGE	GROWTH RATE	DEATH	GIVEN POP	NEW POP	POP EST	COMPLETE
A	5RA	5DA	5NA	N1A	5N1A	COMP
60	0.008020	340	14177	364		
55	0.009110	33	4143	414	1945	0.471
50	0.028310	32	4695	511	2312	0.503
45	0.020380	18	5136	584	2757	0.506
40	0.035950	25	6742	726	3275	0.503
35	0.035010	22	7783	888	4035	0.499
30	0.047560	26	10556	1155	5107	0.522
25	0.032310	18	11346	1377	6330	0.523
20	0.025000	20	14901	1581	7395	0.384
15	0.055400	17	23329	2105	9215	0.321
10	0.061080	15	39317	2882	12467	0.338
5	0.026570	23	43491	3316	15495	0.381
0	0.008340	284	43593	3747		

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Table 3.48.28 SAMBURU (MALES)

AGE	GROWTH RATE	DEATH	GIVEN POP	NEW POP	POP EST	COMPLETE
A	5RA	5DA	5NA	N1A	5N1A	COMP
60	0.012670	0	1782	0		
55	0.015820	0	765	0	0	0.000
50	0.007920	0	1037	0	0	0.000
45	0.016210	0	1544	0	0	0.000
40	-.002020	0	1324	0	0	0.000
35	-.025870	1	1629	0	0	0.001
30	0.006200	1	1647	1	2	0.001
25	-.013610	0	1969	0	2	0.000
20	-.013050	0	2553	0	0	0.000
15	-.000030	0	3963	0	0	0.000
10	0.000890	0	5451	0	0	0.000
5	0.009690	0	6067	0	0	0.000
0	0.017060	0	7040	0		

Table 3.48.29 S .NYANZ(MALES)

AGE	GROWTH RATE	DEATH	GIVEN POP	NEW POP	POP EST	COMPLETE
A	5RA	5DA	5NA	N1A	5N1A	COMP
60	0.014480	82	21500	83		
55	0.006330	14	8152	99	455	0.056
50	0.017610	20	10291	129	570	0.057
45	0.015360	16	12305	155	710	0.061
40	0.014730	11	12841	173	832	0.067
35	-.014020	16	13053	131	897	0.060
30	0.016950	7	17713	204	962	0.052
25	0.018170	9	21989	232	1090	0.045
20	0.021200	6	29942	264	1240	0.034
15	0.034040	8	48732	322	1465	0.029
10	0.025140	5	61299	370	1750	0.029
5	0.013700	19	64538	415	1962	0.034
0	0.017470	206	72712	668		

Table 3.48.30 TAITA (MALES)

AGE	GROWTH RATE	DEATH	GIVEN POP	NEW POP	POP EST	COMPLETE
A	5RA	5DA	5NA	N1A	5N1A	COMP
60	0.027970	21	3721	25		
55	0.039620	1	1776	31	140	0.086
50	0.028030	6	1980	42	162	0.091
45	0.024680	3	2551	50	230	0.095
40	0.021840	2	2691	57	267	0.098
35	0.008780	4	3068	63	300	0.096
30	0.010370	4	3502	70	332	0.090
25	0.017300	3	4287	79	372	0.090
20	0.027850	2	4623	92	427	0.078
15	0.042180	2	7477	115	517	0.063
10	0.044590	0	11063	143	645	0.060
5	0.034320	0	12664	169	760	0.068

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Table3.48.31 TANA R (MALES)

AGE	GROWTH RATE	DEATH GIVEN POP	NEW POP	POP EST	COMPLETE
A	5RA	5DA	5NA	N1A	5N1A	COMP
60	0.034560	1	2237	1		
55	0.029640	0	345	1	5	0.005
50	0.040590	0	1125	1	5	0.004
45	0.061290	0	1412	1	5	0.004
40	0.063250	1	1346	2	7	0.004
35	0.045350	0	1953	2	10	0.004
30	0.056950	0	2512	2	10	0.004
25	0.066130	0	3117	2	10	0.004
20	0.090640	1	3931	4	15	0.004
15	0.091360	0	5136	6	25	0.005
10	0.060110	0	6293	8	35	0.006
5	0.051770	0	7622	10	45	0.006
0	0.052960	10	8616	25		

Table 3.48.32 T NZOIA (MALES)

AGE	GROWTH RATE	DEATH GIVEN POP	NEW POP	POP EST	COMPLETE
A	5RA	5DA	5NA	N1A	5N1A	COMP
60	0.072840	18	4685	45		
55	0.071570	2	2551	60	277	0.116
50	0.070680	0	3279	94	400	0.131
45	0.055000	6	4075	130	560	0.150
40	0.053150	1	4684	170	750	0.171
35	0.059220	3	5243	210	950	0.180
30	0.056550	5	6966	267	1242	0.186
25	0.068190	1	3967	404	1727	0.212
20	0.076120	2	10895	593	2492	0.250
15	0.079580	0	13822	881	3635	0.292
10	0.082300	0	17683	1329	5525	0.338
5	0.078830	6	23152	1980	8272	0.410
0	0.070920	53	26710	2865		

Table 3.48.33 TURKANA (MALES)

AGE	GROWTH RATE	DEATH GIVEN POP	NEW POP	POP EST	COMPLETE
A	5RA	5DA	5NA	N1A	5N1A	COMP
60	-.909000	1	2295	0		
55	-.031810	0	1311	0	0	0.000
50	-.032620	1	1877	0	0	0.000
45	-.011470	0	2912	0	0	0.000
40	-.022190	1	2825	0	0	0.000
35	-.027880	1	3719	0	0	0.000
30	-.016240	2	4252	1	2	0.001
25	-.005420	3	5920	3	10	0.002
20	-.002020	2	7007	4	17	0.002
15	-.022790	2	9662	5	22	0.002
10	-.020270	0	10002	4	22	0.002
5	-.007500	1	10823	4	20	0.003
0	-.012650	13	9664	16		

I979 DEATHS, POPULATION, AND RATES OF GROWTH BY AGE AND SEX, AND THE ESTIMATION OF THE DEGREES OF COMPLETENESS

Table 3.48.34 U.GISHU (MALES)

AGE	GROWTH RATE	DEATH GIVEN POP	NEW POP	POP EST	COMPLETE
A	.5RA	5DA	5NA	N1A	5N1A	COMP
60	0.033240	79	6198	131		
55	0.030610	7	2929	165	740	0.257
50	0.041570	5	3575	208	952	0.255
45	0.019410	7	4444	236	1110	0.237
40	0.039000	6	5806	293	1322	0.232
35	0.026250	12	6792	346	1597	0.222
30	0.042850	12	9290	442	1970	0.210
25	0.040190	4	11808	544	2465	0.217
20	0.061120	13	14434	753	3242	0.237
15	0.022850	6	16113	850	4007	0.248
10	0.052740	6	19352	1113	4907	0.250
5	0.042100	11	24640	1385	6245	0.270
0	0.042120	177	28752	1906		

Table 3.48.35 W.POKOT (MALES)

AGE	GROWTH RATE	DEATH GIVEN POP	NEW POP	POP EST	COMPLETE
A	.5RA	5DA	5NA	N1A	5N1A	COMP
60	0.058160	22	3811	36		
55	0.054050	2	1444	49	212	0.142
50	0.056720	4	2116	69	295	0.153
45	0.050410	6	2485	95	410	0.190
40	0.046340	3	2540	123	545	0.216
35	0.046560	1	3146	156	697	0.225
30	0.079360	5	4315	238	985	0.245
25	0.075170	11	5787	359	1492	0.311
20	0.083900	7	6363	554	2282	0.388
15	0.075540	20	8444	832	3465	0.447
10	0.077820	8	10883	1237	5172	0.527
5	0.055210	3	12504	1638	7167	0.627
0	0.065910	53	14736	2339		

Table 3.48.36 SIAYA (MALES)

AGE	GROWTH RATE	DEATH GIVEN POP	NEW POP	POP EST	COMPLETE
A	5RA	5DA	5NA	N1A	5N1A	COMP
60	0.015690	543	17097	616		
55	0.009650	84	5782	732	3370	0.592
50	0.022850	56	6707	879	4027	0.649
45	0.020560	59	6881	1036	4787	0.754
40	0.018030	30	6759	1165	5502	0.811
35	-.091960	34	5958	762	4817	0.646
30	0.025760	24	7894	892	4135	0.533
25	0.029850	32	8894	1070	4905	0.511
20	0.017370	26	11773	1194	5660	0.332
15	0.033300	27	25139	1439	6582	0.262
10	0.029190	57	30083	1726	7912	0.254
5	0.017260	74	37285	1958	9210	0.292
0	0.013940	1304	40446	3449		

1979 DEATHS, POPULATION, AND RATES OF GROWTH BY AGE AND SEX, AND THE ESTIMATION OF THE DEGREES OF COMPLETENESS

Table 3.43.37 BUNGOMA (MALES)

AGE	GROWTH RATE	DEATH	GIVEN POP	NEW POP	POP EST	COMPLETE
A	5RA	5DA	5NA	N1A	5N1A	COMP
60	0.023120	162	9683	222		
55	0.030850	18	3752	278	1250	0.326
50	0.042350	20	5025	365	1607	0.326
45	0.041100	23	6341	473	2095	0.343
40	0.027950	28	7378	573	2615	0.374
35	0.017430	22	7752	648	3052	0.362
30	0.033330	20	10578	787	3507	0.327
25	0.051650	19	14377	1040	4507	0.296
20	0.046910	16	21083	1352	5930	0.265
15	0.047400	23	30029	1714	7615	0.258
10	0.037670	25	36333	2090	9510	0.269
5	0.032660	50	41823	2507	11492	0.281
0	0.036480	461	52037	3513		

Table 3.43.38 KITUI (MALES)

AGE	GROWTH RATE	DEATH	GIVEN POP	NEW POP	POP EST	COMPLETE
A	5RA	5DA	5NA	N1A	5N1A	COMP
60	0.016650	61	13741	55		
55	0.002260	14	4160	69	310	0.068
50	0.029100	19	6528	100	462	0.082
45	0.018660	12	5365	122	555	0.099
40	0.004530	10	6709	134	640	0.100
35	0.005020	11	6721	143	705	0.096
30	0.018100	7	8300	169	792	0.092
25	0.018140	3	9463	183	892	0.090
20	0.011360	8	11436	207	967	0.061
15	0.045080	10	24420	270	1192	0.046
10	0.050970	6	35333	355	1562	0.047
5	0.037120	22	40984	451	2015	0.060
0	0.021860	199	41636	713		

Table 3.43.39 KISII (MALES)

AGE	GROWTH RATE	DEATH	GIVEN POP	NEW POP	POP EST	COMPLETE
A	5RA	5DA	5NA	N1A	5N1A	COMP
60	0.011500	58	14042	38		
55	0.022340	7	6095	49	217	0.038
50	0.027460	15	7430	72	302	0.042
45	0.021130	25	10304	106	445	0.050
40	0.022890	32	11599	152	645	0.060
35	-.006960	19	12173	165	792	0.059
30	0.019110	21	16892	203	920	0.048
25	-.024430	15	23094	193	990	0.036
20	0.033640	9	34433	236	1077	0.027
15	0.037540	9	54730	297	1337	0.024
10	0.021010	10	67061	340	1592	0.024
5	0.016050	29	75517	398	1845	0.025
0	0.021870	88	90084	536		

1979 DEATHS, POPULATION, AND RATES OF GROWTH BY AGE AND SEX, AND THE ESTIMATION OF THE DEGREES OF COMPLETENESS

Table 3.4B.40 KWALE (MALES)

AGE	GROWTH RATE	DEATH	GIVEN POP	NEW POP	POP EST	COMPLETE
A	5RA	5DA	5NA	N1A	5N1A	COMP
60	0.015590	58	7359	59		
55	0.021620	6	3050	72	327	0.104
50	0.045430	4	4067	94	415	0.098
45	0.029470	2	5398	111	512	0.105
40	0.039640	10	5638	146	642	0.116
35	0.010640	10	6687	164	775	0.116
30	0.033190	2	7704	195	897	0.110
25	0.030460	10	10297	237	1080	0.117
20	0.047330	8	10516	309	1365	0.126
15	0.041690	12	14249	393	1755	0.125
10	0.035740	7	17131	477	2175	0.117
5	0.030770	6	23517	562	2597	0.119
0	0.035560	85	26162	764		

Table 3.4B.41 KIAMBU (MALES)

AGE	GROWTH RATE	DEATH	GIVEN POP	NEW POP	POP EST	COMPLETE
A	5RA	5DA	5NA	N1A	5N1A	COMP
60	0.017130	241	15029	0		
55	0.006090	32	5623	32	80	0.027
50	0.027200	33	6743	71	257	0.047
45	0.024400	33	8553	115	465	0.061
40	0.044390	38	11293	186	752	0.074
35	0.033720	23	13445	245	1077	0.077
30	0.054680	39	20214	366	1527	0.083
25	0.051160	47	25219	525	2230	0.094
20	0.048570	20	30911	693	3047	0.103
15	0.052550	29	38360	934	4067	0.109
10	0.057480	24	49167	1272	5515	0.118
5	0.032730	36	56840	1537	7022	0.142
0	0.020100	704	62949	2439		

3.4.C· Analysis of the Medians of the Degrees of Completeness of the Death Registration Data.

A summary of the medians of the degrees of completeness in Kenya at the National level is displayed in Table 3.4.C.1

From the table, the districts that had a relatively better death registration data system, as compared to the National one, are Siaya (Males), Nyeri (Males), Mombasa (Females), Nairobi (Females) and Uasin Gishu (Females).

The relatively lower degrees of completeness were found in Turkana (Males), Elgeyo Marakwet (Males and Females), Kisumu (Males), Isiolo (Males), Samburu (Males), Tana River (Males and Females), and Marsabit (Females).

The quality of the death registration data in most districts was better for males than for females.

Table 3.4.C.1: Medians of the Degrees of Completeness of the Death Registration Data at the National and District Levels.

Completeness: (Median of the Completeness in the various age groups)

	District	Males	Females
1.	Baringo	0.035	0.015
2.	Bungoma	0.326	0.259
3.	Busia	0.370	0.161
4.	Bungoma	0.367	0.236
5.	Kisumu	0.091	0.154
6.	Elgeyo Marakwet	0.003	0.007
7.	Embu	0.280	0.189
8.	Murang'a	0.391	0.260
9.	Garissa	0.144	0.134
10.	Isiolo	0	.011
11.	Kajiado	0.178	0.071
12.	Kakamega	0.215	0.130
13.	Kericho	0.033	0.196
14.	Kilifi	0.007	0.009
15.	Kirinyaga	0.167	0.123
16.	Machakos	0.281	0.139
17.	Turkana	0.001	0.001
18.	Uasin Gishu	0.237	0.309
19.	West Pokot	0.245	0.130
20.	Siaya	0.538	0.157
21.	Kitui	0.082	0.058

Table 3.4.C.1(cont.)

	District	Males	Females
22.	Kisii	0.038	0.015
23.	Kwale	0.116	0.073
24.	Kirinyaga	0.167	0.123
25.	Lamu	0.156	0.126
26.	Marsabit	0.040	0.004
27.	Laikipia	0.285	0.214
28.	Meru	0.085	0.050
29.	Mombasa	0.361	0.359
30.	Nairobi	0.235	0.383
31.	Nakuru	0.139	0.065
32.	Nandi	0.020	0.006
33.	Narok	0.027	0.005
34.	Nyandarua	0.069	0.014
35.	Nyeri	0.499	0.285
36.	Taita	0.090	0.048
37.	Tana River	0.004	0.006
38.	Tranz-Nzoia	0.186	0.201
39.	South Nyanza	0.052	
40.	Samburu	0	
41.	Kenya	0.222	0.135

3.5 LIFE TABLE CONSTRUCTION FROM THE INCOMPLETE DEATH REGISTRATION DATA

3.5.1 Introduction

Nyokangi[3] (1984) found that the degrees of completeness of the Kenyan death registration data were 22.7 percent and 12.7 percent for males and females respectively. In the previous section it has been found out that the data for Kenya and it's various districts is incomplete. Therefore to be able to draw the life tables for the various districts, an inferential method will be used. The inferential method that will be used is the Bennett and Horiuchi (1982) technique.

3.5.2 Procedure : The Bennett-Horiuchi method for constructing life-tables from the incomplete Death Registration Data.

1) Calculate the Age Specific Growth Rates for the two consecutive censuses using the formula:

$$ {}_5r_a = \frac{1}{t_2 - t_1} \ln\left[\frac{{}_5N_a(t_2)}{{}_5N_a(t_1)}\right] \qquad .....(3.6.1) $$

for a=0, 5, ..., A-5 where

A is the age group of the open interval,

and $t_1 = 1969$, $t_2 = 1979$,

${}_5r_a$ is the intercensal age specific growth rate from age a to a+4;

${}_5N_a(t_2)$ and ${}_5N_a(t_1)$ are the populations in age group a to a+4 in the years t_2 and t_1 respectively.

(ii) Estimate the median of the degree of completeness for all the age groups as in the previous section.

(iii) Estimate M(A), the death rate at age 75 and over that has been adjusted for the under-registration of deaths. The formula to be used is:

$$M(75)=D(75)/_{C \times N(75)} \quad \ldots\ldots(3.6.2)$$

where:

C is the median of the completeness of the death Registration data,

D(75) is the number of deaths at age 75 and over.

and N(75) is the total population at age 75 and over.

(iv) Calculate e(A), the life expectancy in the open interval using the Coale and Horiuchi[4] (1982) formula:

$$e(75)= M(75)^{-1} X \exp[-0.0951(M(75))r(75)]$$

note: r(75) is the growth rate at age 75 and over.

(v) Estimate the inflation factors γ using the formula:

$${}_5\gamma_x=1.00-2.261\,{}_5r_x\,{}_5M_x+0.215\,{}_5r_x-0.826\,{}_5r_x \quad \ldots\ldots(3.6.3)$$

(vi) Estimate $\hat{N}(a-5)$, the population at age (a-5),

a) If a>60, $\hat{N}(a-5)=\hat{N}(a)\exp[5 \times 5^{r}a-5] +$

$5^{\gamma}a-5 \times 5^{D}a-5 \exp[2.5_{5}{}^{r}a-5]$

.....(3.6.4)

b) If a<60, $\hat{N}(a-5=\hat{N}(a)\exp[5._{5}{}^{r}a-5]$

$+5^{D}a-5 \exp[2.5_{5}{}^{r}a-5]$

.....(3.6.5)

(vii) $5^{P}a=\frac{\hat{N}(a+5}{\hat{N}(a)}\exp[5.5^{r}a]$ .....(3.6.6)

$5^{P}a$ is the probability of surviving from age a to a+4.

(viii) Then, the other life table functions are computed as below:

a) The probability of dying in the age interval a to a+4, $5^{q}a=1-5^{P}a$ .....(3.6.7)

b) $5^{d}a=l_{a} \times 5^{q}a$, $(l_{0}=100,000)$ ....(3.6.8)

c) $l_{a+5}=l_{a}-5^{d}a$ .....(3.6.9)

d) $5^{L}a$, the number of person years between exact ages a to a+5 is $\frac{5}{2}(l_{a}+l_{a+5})$

.....(3.6.10)

e) $\infty L_A = l_A \times e(A)$ (A=75 in this case).

.....(3.6.11)

f) T_a, the number of person years lived after age 'a' is $\sum_{a=0}^{A-5} .5L_{a+} \infty L_A$

.....(3.6.12)

g) $e(a) = \frac{T_a}{l_a}$ .....(3.6.13)

e(a) is the life expectancy at age a(a=0, ..., A-5).

3.5.3 Computer Program for Constructing Life Tables from the Incomplete Death Registration Data.

Variables Used

(i) S is the name of the country or district.

(ii) IA(I) is the age group in years.

(iii) IGP(I) is the population in age grop IA(I), obtained from the 1979 census.

(iv) R(I) is the Age Specific Growth Rate.

(v) G(I) is an 'inflation' factor

(vi) ID(I) is the number of deaths in age group IA(I)($5D_a$).

(vii) SDIAD(I) is the adjusted Age Specific Death Rate in age group IA(I).

(viii) NPOP(I) is the estimated population.

(ix) CPOP(I) is the degree of completeness of the death Registration data.

(x) E(16) is an estimate of the life expectancy at the uppermost open interval.

(xi) P(I) is the probability of surviving from age a to age a+4 ($5^{P}a$).

(xii) Q(I) is the probability of dying ($5^{d}a$).

(xiii) L(I) is l_x.

(xiv) I5D(I) is $5^{d}a$.

(xv) I5L(I) is $5^{L}x$.

(xvi) IT(I) is T_x.

(xvii) EX(I) is an estimate of the life expectancy at the beginning of the age group IA(I).

The rest of the computer program that the author has written is in Appendix A5.

3.5.4 Analysis of the Life Tables from the Incomplete Death Data

The life tables that have been constructed from the incomplete Death Registration Data are displayed in tables 3.5A.4.1 to 4.5A.4.32 and 3.5B.4.1 to 3.5B.4.31.

The life tables for some districts may not be quite accurate because:

i) It is quite likely that the deaths under age five are recorded to a lesser extent than those above age five;

ii) The estimate of e(75) was obtained by using the model life tables and the assumption of the Hill and Zlotnik equation.

iii) In the approximation it was assumed that the population was stable which might not be necessarily correct.

Districts like West Pokot, Turkana, Garissa and Kajiado are in the semi-arid zone of the country. The inhabitants in these areas are nomads. So, the degree of completeness in the coverage of the data is not certain.

Others like Nandi, Nakuru, Nzoia, Uasin Gishu, Nairobi, Mombasa, and Kisumu receive in-migrants at the rates that I have not determined. Therefore, the assumption of stability cannot be guaranteed in this case. This can lead to errors in the life expectancy estimates.

The vital registration data for some districts was not available and so the life tables for these districts have not been constructed.

THE ABRIDGED LIFE TABLES FOR MALES AND FEMALES THAT HAVE BEEN CONSTRUCTED FROM THE INCOMPLETE DEATH REGISTRATION DATA

Table 3.5A.4. 1 KENYA (FEMALES)

IA(I)	NPOP(I)	P(I)	Q(I)	LS(I)	L(I)	5L(I)	T(I)	EX(I)
0	49213	0.8477	0.1523	15227	100000	461932	5567979	55.68
5	35763	0.9707	0.0293	1856	84773	419350	5106047	60.23
10	29625	0.9866	0.0134	1113	82957	412052	4686697	56.49
15	23513	0.9837	0.0163	1337	81854	405927	4274645	52.22
20	18104	0.9791	0.0209	1665	80517	398377	3868718	48.05
25	14345	0.9738	0.0262	2066	78854	389006	3470341	44.02
30	12165	0.9719	0.0281	2156	76788	378440	3081341	40.14
35	10059	0.9646	0.0354	2639	74610	366452	2702901	36.23
40	8746	0.9669	0.0331	2363	71971	353697	2336449	32.46
45	7257	0.9548	0.0452	3145	69588	340077	1982552	28.49
50	5948	0.9364	0.0636	4226	66443	321650	1642475	24.72
55	4748	0.9375	0.0625	3867	62217	301367	1320825	21.23
60	3877	0.8707	0.1293	7542	58350	272795	1019458	17.48
65	3133	0.8736	0.1264	6420	50758	237890	746663	14.70
70	2385	0.8119	0.1881	8345	44338	208977	508773	11.47
75	1659	0.0000	0.0000	0	36023	307796	307796	8.54

Table 3.5A.4. 2 BARI (FEMALES)

IA(I)	NPOP(I)	P(I)	Q(I)	LS(I)	L(I)	5L(I)	T(I)	EX(I)
0	75	0.7105	0.2895	28953	100000	427617	3940361	39.40
5	49	0.9922	0.0078	553	71047	353852	3512744	49.44
10	45	1.0028	-.0028	-138	70494	352615	3158892	44.81
15	37	0.9670	0.0330	920	70632	350660	2806077	39.73
20	30	0.9077	0.0923	6457	69712	338467	2455217	35.22
25	24	0.7993	0.2007	13899	63275	284627	2122750	33.55
30	18	0.9369	0.0131	834	50570	251220	1838123	36.34
35	16	0.9896	0.0102	506	49912	248298	1586903	31.79
40	15	0.7229	0.2771	13696	49404	212795	1338613	27.10
45	10	0.9625	0.0375	1836	35714	175223	1125818	31.52
50	9	0.9049	0.0351	1206	33878	168365	950593	27.65
55	8	1.1242	-.1242	-4120	35170	176150	781728	23.57
60	8	0.9238	0.0762	2642	37290	179345	605578	16.24
65	7	0.9144	0.0856	2947	34448	164872	426233	12.37
70	6	1.0459	-.0459	-1444	31501	161115	261361	8.30
75	6	0.0000	0.0000	0	32945	100246	100246	3.04

Table 3.5A.4. 3 BUNGOMA (FEMALES)

IA(I)	NPOP(I)	P(I)	Q(I)	LS(I)	L(I)	5L(I)	T(I)	EX(I)
0	2624	0.8206	0.1794	17941	100000	435147	5483849	54.84
5	1769	0.9619	0.0381	3126	82059	402480	5028702	61.28
10	1426	0.9839	0.0161	1270	78933	391490	4626222	58.61
15	1169	0.9869	0.0131	1017	77663	385772	4234732	54.53
20	892	0.9770	0.0230	1765	76646	378617	3848960	50.22
25	681	0.9763	0.0237	1774	74881	369970	3470343	46.34
30	548	0.9785	0.0215	1569	73107	361612	3100173	42.41
35	463	0.9729	0.0271	1942	71538	352835	2738561	38.28
40	406	0.9759	0.0241	1676	69596	343790	2385726	34.28
45	328	0.9658	0.0342	2254	67920	333965	2041936	30.06
50	258	0.9570	0.0430	2824	65666	321270	1707971	26.01
55	215	0.9234	0.0766	4812	62842	301210	1386701	22.07
60	164	0.8790	0.1210	7522	58030	272595	1084521	18.69
65	124	0.8658	0.1342	8643	51008	237932	811926	15.92
70	97	0.7544	0.2456	14846	44163	193705	573994	13.00
75	55	0.0000	0.0000	0	33317	380289	380289	11.41

THE ABRIDGED LIFE TABLES FOR MALES AND FEMALES THAT HAVE BEEN CONSTRUCTED FROM THE INCOMPLETE DEATH REGISTRATION DATA

Table 3.5A.4. 4 BUSIA (FEMALES)

IA(I)	NPOP(I)	P(I)	Q(I)	D(I)	L(I)	SL(I)	T(I)	EX(I)
0	1625	0.8694	0.1306	13064	100000	487340	5547115	55.47
5	1331	0.9745	0.0255	2213	86936	429147	5059775	58.43
10	1103	0.9868	0.0132	1117	84723	420822	4630628	54.69
15	865	0.9715	0.0287	2326	83606	416215	4209806	50.59
20	598	0.9669	0.0111	922	82680	412095	3813591	46.01
25	443	0.9874	0.0126	1036	81956	407215	3401496	41.50
30	386	0.9753	0.0247	1996	80920	399650	2994281	37.00
35	329	0.9715	0.0285	2247	78932	389042	2594631	32.87
40	293	0.9664	0.0336	2577	76685	376962	2205589	28.76
45	222	0.9446	0.0554	4108	74108	360270	1828627	24.67
50	157	0.9436	0.0564	3946	70000	340135	1468357	20.96
55	125	0.9354	0.0646	4204	66054	319610	1128202	17.08
60	102	0.7310	0.2690	15516	61790	287405	808592	13.09
65	67	0.7753	0.2247	10148	45172	200490	541187	11.98
70	46	0.6917	0.1083	3792	35024	165640	340697	9.73
75	32	0.0000	0.0000	0	31232	175057	175057	5.61

Table 3.5A.4. 5 KISUMU (FEMALES)

IA(I)	NPOP(I)	P(I)	Q(I)	D(I)	L(I)	SL(I)	T(I)	EX(I)
0	3997	0.9109	0.0891	8912	100000	477720	5772064	57.72
5	3217	0.9882	0.0118	1075	91088	452750	5294344	58.12
10	2916	0.9928	0.0072	650	90012	448435	4841594	53.79
15	2621	0.9902	0.0098	876	89362	444620	4393159	49.16
20	2255	0.9920	0.0080	704	88486	440870	3948539	44.62
25	1842	0.9831	0.0169	1482	87732	435205	3507669	39.98
30	1210	0.9869	0.0131	1134	86250	428665	3072664	35.60
35	709	0.9876	0.0324	2759	85116	418932	2643999	31.05
40	547	0.9764	0.0236	1942	82407	407180	2225067	27.00
45	346	0.9347	0.0653	5256	80465	389130	1817887	22.59
50	210	0.8753	0.1247	9376	75207	352595	1428707	19.00
55	162	0.8624	0.1376	9056	65831	306515	1076112	16.35
60	120	0.7624	0.2376	15467	56775	250157	769597	13.56
65	81	0.8397	0.1603	8957	43238	199397	519440	12.00
70	61	0.8344	0.1656	6620	30351	166735	320343	8.81
75	45	0.0000	0.0000	0	30351	153638	153638	5.07

Table 3.5A.4. 6 KAJIADO (FEMALES)

IA(I)	NPOP(I)	P(I)	Q(I)	D(I)	L(I)	SL(I)	T(I)	EX(I)
0	627	0.8886	0.1114	11137	100000	472157	6277049	62.73
5	414	0.9966	0.0034	297	88863	443572	5805492	65.33
10	301	0.9985	0.0015	130	88566	442505	5361920	60.54
15	209	1.0019	-.0019	-166	88436	442595	4919415	55.63
20	144	1.0017	-.0017	-152	88602	443390	4476820	50.53
25	108	0.9510	0.0490	4332	88754	432390	4033430	45.45
30	86	0.9915	0.0085	715	84402	420227	3600540	42.66
35	66	0.9357	0.0643	5709	83669	409172	3180313	38.00
40	50	0.9493	0.0507	4056	79960	389760	2771141	34.65
45	37	0.9156	0.0844	6560	75924	363220	2381331	31.37
50	29	0.9902	0.0098	661	69304	345117	2018161	29.10
55	25	1.0320	-.0320	-2197	68663	346907	1673044	24.30
60	21	0.9004	0.0996	7060	70860	336750	1326137	18.65
65	16	0.9807	0.0193	1234	63826	316015	989387	15.47
70	13	0.9166	0.0834	5219	62592	299632	673372	10.73
75	9	0.0000	0.0000	0	57367	371490	371490	6.48

THE ABRIDGED LIFE TABLES FOR MALES AND FEMALES THAT HAVE BEEN CONSTRUCTED FROM THE INCOMPLETE DEATH REGISTRATION DATA

Table 3.5A.4. 7 KAKAMEGA(FEMALES)

IA(I)	NPOP(I)	P(I)	Q(I)	ISD(I)	L(I)	ISL(I)	IT(I)	EX(I)
0	3204	0.7750	0.2250	22500	100000	443750	4960125	49.60
5	2219	0.9662	0.0338	2622	77500	380945	4516375	58.28
10	1851	0.9789	0.0211	1581	74878	370437	4135430	55.23
15	1566	0.9801	0.0199	1455	73297	362847	3764993	51.37
20	1260	0.9787	0.0213	1527	71842	355392	3402146	47.36
25	979	0.9744	0.0256	1797	70315	347082	3046754	43.33
30	842	0.9645	0.0355	2431	68518	336512	2699672	39.40
35	739	0.9706	0.0294	1940	66087	325585	2363160	35.76
40	678	0.9819	0.0181	1161	64147	317832	2037575	31.76
45	568	0.9701	0.0299	1883	62986	310222	1719743	27.30
50	451	0.9526	0.0474	2893	61103	298282	1409521	23.07
55	402	0.9164	0.0836	4865	58210	278637	1111239	19.09
60	331	0.8891	0.1109	5915	53345	251937	832602	15.60
65	289	0.8264	0.1736	8236	47430	216660	580415	12.24
70	192	0.7998	0.2002	7846	39194	176355	363655	9.28
75	104	0.0000	0.0000	0	31348	187500	187500	5.98

Table 3.5A.4. 5 KERICHO (FEMALES)

IA(I)	NPOP(I)	P(I)	Q(I)	ISD(I)	L(I)	ISL(I)	IT(I)	EX(I)
0	492	0.6888	0.3112	31121	100000	422197	4938923	49.39
5	292	0.9554	0.0446	3070	68879	336720	4516726	65.57
10	249	0.9787	0.0213	1400	65809	325545	4180006	63.52
15	215	1.0033	-.0033	-214	64409	322580	3854461	59.84
20	174	0.9813	0.0187	1209	64623	320092	3531881	54.65
25	141	0.9951	0.0049	311	63414	316292	3211789	50.65
30	123	0.9919	0.0081	509	63103	314242	2895497	45.89
35	102	0.9882	0.0118	738	62594	311125	2581255	41.24
40	91	0.9923	0.0077	474	61856	308095	2270130	36.70
45	74	1.0128	-.0128	-782	61382	308865	1962035	31.96
50	63	0.9663	0.0337	2095	62164	305562	1653170	26.59
55	52	1.0082	-.0082	-494	60069	301530	1347588	22.43
60	44	0.9578	0.0422	2536	60563	296420	1046008	17.27
65	40	1.0133	-.0133	-770	58005	291950	749588	12.92
70	36	1.0026	-.0026	-154	58775	294260	457638	7.79
75	35	0.0000	0.0000	0	53929	163378	163378	2.77

Table 3.5A.4. 9 KIAMBU (FEMALES)

IA(I)	NPOP(I)	P(I)	Q(I)	ISD(I)	L(I)	ISL(I)	IT(I)	EX(I)
0	3942	0.8322	0.1678	16783	100000	458042	5898715	58.99
5	2981	0.9301	0.0119	992	83217	413605	5440673	65.38
10	2482	0.9890	0.0110	904	82225	408365	5027068	61.14
15	1803	0.9899	0.0101	820	81321	404555	4618203	56.79
20	1354	0.9833	0.0167	1342	80501	399150	4213648	52.34
25	1094	0.9818	0.0182	1443	79159	392137	3814498	48.19
30	909	0.9778	0.0222	1725	77716	384267	3422311	44.04
35	738	0.9727	0.0273	2077	75991	374762	3038044	39.98
40	606	0.9681	0.0319	2354	73914	363685	2663282	36.03
45	500	0.9820	0.0180	1289	71560	354577	2299597	32.14
50	444	0.9632	0.0368	2587	70271	344837	1945020	27.68
55	393	0.9811	0.0189	1278	67684	335225	1600183	23.64
60	376	0.9478	0.0522	3468	66406	323360	1264958	19.05
65	344	0.9559	0.0441	2773	62938	307757	941548	14.96
70	287	0.8982	0.1018	6090	60165	285830	633791	10.53
75	203	0.0000	0.0000	0	54075	348191	348191	6.44

THE ABRIDGED LIFE TABLES FOR MALES AND FEMALES THAT HAVE BEEN CONSTRUCTED FROM THE INCOMPLETE DEATH REGISTRATION DATA

Table 3.5A.4.10 KILIFI (FEMALES)

IA(I)	NPOP(I)	P(I)	Q(I)	ISD(I)	L(I)	ISL(I)	IT(I)	EX(I)
0	69	0.9132	0.1678	13755	100000	483642	6082201	60.82
5	59	0.9913	0.0067	734	81217	404825	5598559	69.31
10	49	0.9922	0.0075	623	80513	400995	5224634	64.89
15	40	0.9874	0.0126	1030	79836	397925	4823639	60.33
20	32	1.0051	-.0051	-394	77253	387410	4425714	57.33
25	25	1.0191	-.0191	-1437	77579	392112	4038304	52.05
30	23	0.9701	0.0299	2378	79136	389986	3646192	46.12
35	19	1.0019	-.0019	-144	78796	394348	3256207	42.47
40	18	0.9933	0.0067	519	78940	393402	2877147	37.39
45	15	0.9922	0.0078	597	78421	390812	2483745	32.63
50	12	0.9507	0.0493	3856	75824	365975	2112133	27.87
55	10	1.0027	-.0027	-206	75566	367417	1746158	24.76
60	10	1.0053	-.0053	-4002	76451	394465	1378741	18.06
65	10	0.9914	0.0086	697	81393	405222	984276	12.10
70	9	0.8883	0.1117	7172	80676	380550	578054	7.19
75	7	0.0000	0.0000	0	71524	199454	199454	2.79

Table 3.5A.4.11 KIRINYAG(FEMALES)

IA(I)	NPOP(I)	P(I)	Q(I)	ISD(I)	L(I)	ISL(I)	IT(I)	EX(I)
0	868	0.8277	0.1723	17225	100000	456937	5612156	56.12
5	663	0.9802	0.0198	1635	82775	409787	5155219	62.28
10	583	0.9853	0.0147	1196	81140	402710	4745462	58.48
15	424	0.9823	0.0177	1414	79944	396185	4342752	54.32
20	304	0.9874	0.0126	991	78530	390172	3946567	50.26
25	261	0.9869	0.0131	1012	77539	385165	3556395	45.87
30	230	0.9807	0.0193	1466	76527	378935	3171230	41.44
35	195	0.9761	0.0239	1745	75047	370747	2792295	37.21
40	183	0.9863	0.0137	1008	73252	363760	2421548	33.06
45	166	0.9795	0.0205	1486	72252	357960	2057788	28.48
50	151	0.9508	0.0492	3464	70772	345159	1700828	24.02
55	118	0.9319	0.0681	4861	67306	324957	1355670	20.14
60	97	0.8656	0.1344	8429	62707	292452	1030891	16.43
65	83	0.9027	0.0973	5279	54278	256192	738439	13.59
70	73	0.7636	0.2364	11555	46999	216037	479437	9.76
75	52	0.0000	0.0000	0	37416	263400	263400	7.04

Table 3.5A.4.12 KISII (FEMALES)

IA(I)	NPOP(I)	P(I)	Q(I)	ISD(I)	L(I)	ISL(I)	IT(I)	EX(I)
0	432	0.8052	0.1948	12476	100000	451335	4095397	40.96
5	306	0.9315	0.0685	3902	86524	392855	3644592	45.26
10	263	0.9597	0.0405	3090	76622	375375	3251737	42.44
15	222	0.9505	0.0495	1435	73530	360467	2876362	39.12
20	167	0.9354	0.0646	4440	72077	349365	2515895	34.85
25	124	0.9543	0.0457	3090	67637	330560	2166530	31.97
30	107	0.9243	0.0757	4667	64547	310617	1835970	28.38
35	90	0.9088	0.0912	5445	59880	284787	1525353	25.50
40	80	0.9954	0.0046	355	54435	270207	1240566	22.81
45	66	0.8991	0.1009	5457	53880	255007	970359	17.96
50	50	0.7942	0.2058	7907	48443	217297	715352	14.67
55	35	0.9296	0.0704	2780	38478	163610	498055	12.93
60	28	0.4883	0.5395	17295	35698	138032	307945	8.61
65	12	0.5843	0.4157	8843	18403	85245	177913	10.77
70	7	0.6191	0.3809	3663	9625	36952	112203	11.65
75	4	0.0000	0.0000	0	5960	73136	73136	12.27

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Table 3.5A.4.13 KITUI (FEMALES)

IA(I)	NPOP(I)	P(I)	Q(I)	ISD(I)	L(I)	ISL(I)	IT(I)	EX(I)
0	932	0.7769	0.2231	22309	100000	444227	5160886	51.61
5	644	0.9693	0.0307	2534	77691	382495	4716661	60.71
10	514	0.9862	0.0138	1036	75157	373940	4334166	57.65
15	385	0.9922	0.0078	579	74269	369897	3960226	53.32
20	301	0.9838	0.0162	1191	73690	365472	3590329	48.72
25	269	0.9715	0.0285	2066	72499	357330	3224857	44.46
30	242	0.9354	0.0646	4550	70433	343790	2867527	40.71
35	195	0.9424	0.0576	3796	65883	319925	2526737	38.35
40	170	0.9508	0.0492	3057	62087	302792	2206812	35.54
45	154	0.9694	0.0306	1836	59030	290630	1904020	32.26
50	130	0.8771	0.1229	7332	57222	268530	1613390	28.20
55	90	0.9485	0.0515	2564	50190	244490	1344860	26.80
60	70	0.9498	0.0502	2389	47626	232057	1100370	23.11
65	71	0.9222	0.0778	3520	45237	217235	868313	19.20
70	54	0.8493	0.1507	6252	41697	192760	651078	15.61
75	38	0.0000	0.0000	0	35445	458248	458248	12.94

Table 3.5A.4.14 KWALE (FEMALES)

IA(I)	NPOP(I)	P(I)	Q(I)	ISD(I)	L(I)	ISL(I)	IT(I)	EX(I)
0	655	0.8945	0.1055	10548	100000	473630	5389123	53.89
5	483	0.9775	0.0225	2010	89452	442235	4915493	54.95
10	397	0.9908	0.0092	864	87442	435200	4473258	51.16
15	326	0.9786	0.0214	1857	86578	426547	4038058	46.81
20	265	0.9765	0.0235	1991	84721	418927	3609511	42.57
25	201	0.9318	0.0682	5642	82730	399845	3190584	38.54
30	168	0.9713	0.0287	2211	77148	380212	2790739	36.17
35	135	0.9337	0.0663	4964	74937	362275	2410527	32.17
40	117	0.9960	0.0040	281	69973	349182	2048252	29.27
45	93	0.8913	0.1087	7570	69692	329520	1699070	24.38
50	73	0.9296	0.0704	4370	62116	299655	1369570	22.05
55	56	0.9090	0.0110	633	57746	267147	1069915	18.53
60	50	0.7659	0.2341	13572	57113	252135	782768	13.71
65	33	0.8496	0.1504	6576	43541	202200	530633	12.13
70	25	0.8569	0.1431	12747	37185	153942	328373	8.84
75	14	0.0000	0.0000	0	24414	174431	174431	7.14

Table 3.5A.4.15 LAMU (FEMALES)

IA(I)	NPOP(I)	P(I)	Q(I)	ISD(I)	L(I)	ISL(I)	IT(I)	EX(I)
0	287	0.9574	0.0426	4259	100000	469352	7342714	73.43
5	199	1.0001	-.0001	-11	95741	476732	6873362	71.78
10	139	1.0057	-.0057	-545	95752	480122	6374630	66.57
15	91	1.0091	-.0091	-873	96297	483667	5894508	61.21
20	63	0.9930	0.0070	677	97170	484157	5410841	55.68
25	44	1.0165	-.0165	-1592	96493	486445	4926684	51.06
30	34	0.9867	0.0133	1302	98085	487170	4440239	45.27
35	26	1.0255	-.0255	-2467	96783	490952	3953069	40.84
40	21	1.0236	-.0236	-2344	99250	502110	3462987	34.89
45	18	0.8990	0.1010	10261	101594	482317	2960877	29.14
50	13	1.0074	-.0074	-677	91333	456357	2478560	27.14
55	11	0.8110	0.1890	17336	92010	416585	2020203	21.96
60	7	0.8817	0.1183	8865	74674	351057	1603618	21.49
65	5	1.1869	-.1869	-12451	65809	300072	1252561	19.04
70	5	0.8368	0.3632	28259	78260	342302	892489	11.41
75	3	0.0000	0.0000	0	49971	571987	571987	11.45

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Table 3.5A.4.16 MACHAKOS(FEMALES)

IA(I)	NPOP(I)	P(I)	Q(I)	D(I)	L(I)	TL(I)	T(I)	EX(I)
0	4967	0.8527	0.1473	14734	100000	4631[illegible]	5733[illegible]	57.33
5	3669	0.9734	0.0266	2663	85266	420672	5370[illegible]	61.61
10	2940	0.9837	0.0163	1651	83603	411657	4949[illegible]	58.42
15	2516	0.9827	0.0173	1412	81952	404750	4537741	54.35
20	1733	0.9813	0.0187	1533	80540	397442	4033811	50.26
25	1347	0.9822	0.0178	1432	79007	390133	3635569	46.17
30	1145	0.9756	0.0244	1912	77355	[illegible]82165	3245369	41.97
35	938	0.9673	0.0327	2472	75523	371435	2863244	37.91
40	775	0.9728	0.0272	1998	73051	360250	2491809	34.11
45	724	0.9607	0.0393	2795	71053	348322	2131549	30.00
50	629	0.9610	0.0390	2694	68258	334633	1783207	26.12
55	432	0.9527	0.0473	3133	65604	320262	1448527	22.08
60	367	0.9010	0.0990	6165	62501	297042	1128265	18.05
65	206	0.9213	0.0787	4430	56516	270305	831223	14.76
70	217	0.8911	0.1089	5651	51336	245302	560713	10.31
75	191	0.0000	0.0000	0	46235	315416	315416	6.82

Table 3.5A.4.17 MERU (FEMALES)

IA(I)	NPOP(I)	P(I)	Q(I)	D(I)	L(I)	TL(I)	T(I)	EX(I)
0	1283	0.8096	0.1904	19045	100000	452392	4912637	49.13
5	671	0.9718	0.0282	2263	80957	399077	4460245	55.09
10	722	0.9781	0.0219	1725	78694	389062	4061168	51.62
15	578	0.9707	0.0293	2255	76951	379117	3672106	47.72
20	449	0.9747	0.0253	1741	74696	369127	3292989	44.09
25	361	0.9643	0.0357	2674	72955	358090	2923862	40.08
30	300	0.9512	0.0488	3431	70281	342627	2565772	36.51
35	236	0.9759	0.0241	1612	66850	330220	2222945	33.25
40	207	0.9530	0.0470	3066	65238	318525	1892725	29.01
45	142	0.9673	0.0327	2082	62172	305753	1574200	25.32
50	121	0.8873	0.1127	6776	60140	288760	1268420	21.09
55	92	0.9445	0.0555	2959	53364	259422	984660	18.45
60	76	0.8124	0.1876	10534	50405	203170	725223	14.39
65	44	0.9090	0.0910	2809	30871	147332	522048	16.91
70	37	0.8556	0.1444	9683	28062	116152	374716	13.35
75	24	0.0000	0.0000	0	18379	258564	258564	14.05

Table 3.5A.4.18 MOMBASA (FEMALES)

IA(I)	NPOP(I)	P(I)	Q(I)	D(I)	L(I)	TL(I)	T(I)	EX(I)
0	2990	0.8389	0.1611	16111	100000	459722	5238000	52.38
5	2064	0.9848	0.0152	1277	83889	416252	4778278	56.96
10	1706	0.9949	0.0051	428	82612	412005	4362026	52.80
15	1353	0.9797	0.0205	1671	82190	406772	3950021	48.06
20	1087	0.9697	0.0303	2442	80519	396470	3543249	44.01
25	838	0.9673	0.0327	2556	78077	383995	3146779	40.30
30	682	0.9699	0.0301	2269	75521	371932	2762784	36.58
35	555	0.9658	0.0342	2508	73252	359990	2390852	32.64
40	472	0.9546	0.0454	3210	70744	345695	2030862	28.71
45	323	0.9555	0.0445	3002	67534	330165	1685167	24.95
50	301	0.9054	0.0946	6134	64532	307450	1355002	21.00
55	220	0.9254	0.0746	4473	59426	280957	1047552	17.93
60	164	0.8494	0.1506	8126	53955	249435	766595	14.21
65	127	0.8568	0.1432	6350	45827	212785	517160	11.29
70	95	0.7013	0.2987	13750	39477	167010	304435	7.75
75	58	0.0000	0.0000	0	27337	137425	137425	4.99

THE ABRIDGED LIFE TABLES FOR MALES AND FEMALES THAT HAVE BEEN CONSTRUCTED FROM THE INCOMPLETE DEATH REGISTRATION DATA

Table 3.5A.4.19 NAIROBI (FEMALES)

IA(I)	NPOP(I)	P(I)	Q(I)	LD(I)	L(I)	TL(I)	T(I)	EX(I)
0	9178	0.9030	0.1000	10002	100000	474995	5649034	56.49
5	6449	0.9905	0.0095	954	99998	447655	5174039	57.49
10	5082	0.9893	0.0107	954	99144	443335	4726384	53.02
15	3773	0.9824	0.0176	1549	98190	437077	4282549	48.56
20	2695	0.9763	0.0237	2052	96641	428075	3845772	44.39
25	1930	0.9622	0.0378	3201	94589	414942	3417697	40.40
30	1360	0.9709	0.0291	2371	91388	401812	3002755	36.89
35	1008	0.9501	0.0499	3943	79017	366227	2601743	32.93
40	793	0.9583	0.0417	3133	75074	327537	2216516	29.52
45	632	0.9395	0.0605	4353	71941	348622	1848979	25.70
50	535	0.9200	0.0800	5403	67568	324432	1500157	22.20
55	465	0.9407	0.0593	3665	62165	301712	1175725	18.91
60	385	0.8931	0.1069	6251	58500	276872	874013	14.94
65	320	0.8824	0.1176	6145	52249	245687	597141	11.43
70	240	0.7892	0.2108	9719	46104	206232	351254	7.62
75	153	0.0000	0.0000	0	36387	145022	145022	3.99

Table 3.5A.4.20 NAKURU (FEMALES)

IA(I)	NPOP(I)	P(I)	Q(I)	LD(I)	L(I)	TL(I)	T(I)	EX(I)
0	1663	0.9272	0.0728	7281	100000	481797	6520338	65.20
5	1177	0.9932	0.0068	680	92719	462030	6038541	65.13
10	870	0.9959	0.0041	376	92039	459525	5576511	60.55
15	577	0.9949	0.0051	471	91717	457407	5116986	55.79
20	365	0.9990	0.0010	88	91246	456015	4659579	51.07
25	256	0.9850	0.0150	1382	91160	452387	4203564	46.11
30	225	0.9804	0.0336	3012	89795	441445	3751177	41.77
35	160	0.9930	0.0070	609	86783	432392	3309732	38.14
40	117	0.9774	0.0226	1946	86174	426000	2877340	33.39
45	85	0.9694	0.0306	2635	84228	418697	2451340	29.10
50	65	0.9512	0.0488	4067	81593	406497	2032643	24.39
55	47	1.0201	-.0201	-1694	79266	400315	1625946	20.51
60	36	0.9532	0.0418	3576	80960	395855	1225631	15.16
65	27	1.0124	-.0124	-959	77482	389607	829776	10.71
70	19	0.8644	0.1356	10037	78441	365812	439969	5.61
75	12	0.0000	0.0000	0	67804	74357	74357	1.10

Table 3.5A.4.21 NANDI (FEMALES)

IA(I)	NPOP(I)	P(I)	Q(I)	LD(I)	L(I)	TL(I)	T(I)	EX(I)
0	57	0.7034	0.2966	29657	100000	425657	6309347	63.09
5	33	0.9669	0.0331	3325	70343	345295	5883690	83.64
10	20	0.9224	0.0776	5279	68018	326477	5537595	81.42
15	19	1.0185	-.0185	-1162	62736	316585	5210718	83.06
20	15	0.9665	0.0315	2011	63898	314462	4894133	76.59
25	12	1.0463	-.0463	-2990	61887	316910	4579671	74.00
30	11	1.0629	-.0629	-4079	64877	334582	4262761	65.71
35	10	1.0371	-.0371	-2565	68956	351167	3928179	56.97
40	9	1.0034	-.0034	-244	71511	358165	3577012	50.02
45	8	1.0792	-.0792	-5651	71755	372977	3218847	44.86
50	6	1.1071	-.1071	-8295	77436	407912	2845870	36.75
55	6	1.0649	-.0649	-3567	85729	442562	2437958	28.44
60	7	1.1428	-.1428	-15036	91296	489075	1995396	21.8
65	6	1.1010	-.1010	-10535	104334	548007	1506321	14.4
70	6	1.0749	-.0749	-8035	114369	595352	958314	8.34
75	5	0.0000	0.0000	0	123472	362462	362462	2.94

THE ABRIDGED LIFE TABLES FOR MALES AND FEMALES THAT HAVE BEEN CONSTRUCTED FROM THE INCOMPLETE DEATH REGISTRATION DATA

Table 3.5A.4.22 NAROK (FEMALES)

IA(I)	NPOP(I)	P(I)	Q(I)	D(I)	L(I)	TL(I)	T(I)	EX(I)
0	130	0.7172	0.2828	36761	100000	429697	4055950	40.56
5	68	0.9529	0.0471	5378	71719	350150	3626653	50.57
10	48	0.9453	0.0547	6737	66341	322362	3276503	47.94
15	34	0.9367	0.0633	7567	59604	291602	2944141	45.57
20	23	0.9262	0.0738	8405	52037	257422	2652539	43.48
25	16	0.9777	0.0223	1249	56052	277157	2339917	41.75
30	13	0.9609	0.0391	2164	54803	268635	2062780	37.64
35	10	0.9329	0.0671	3582	52659	254465	1794125	34.07
40	8	0.9052	0.0948	4886	49127	233995	1539660	31.34
45	6	1.0565	-.0565	-2515	44471	228657	1305665	29.36
50	5	0.9259	0.0741	3575	46984	225962	1077008	22.92
55	4	1.2003	-.2003	-8696	43409	232735	851046	19.61
60	4	0.8005	0.1995	10395	52105	254537	618311	11.75
65	3	0.7144	0.2856	11912	41710	176770	377774	9.06
70	2	0.5109	0.4891	14572	29798	112560	196954	6.68
75	1	0.0000	0.0000	0	15226	86394	86394	5.67

Table 3.5A.4.23 NYANDARU(FEMALES)

IA(I)	NPOP(I)	P(I)	Q(I)	D(I)	L(I)	TL(I)	T(I)	EX(I)
0	67	0.6798	0.3202	32022	100000	419945	4126271	41.26
5	43	0.9700	0.0300	2057	67978	334797	3706326	54.52
10	30	0.9553	0.0447	2946	65941	322340	3371529	51.13
15	24	0.9040	0.0960	6346	62995	299860	3049189	48.40
20	16	1.0238	-.0238	-1554	56949	288130	2749329	48.28
25	16	0.9701	0.0299	1745	58303	287157	2461199	42.21
30	9	0.8939	0.1061	6661	56560	267797	2174042	38.44
35	7	1.0803	-.0803	-4960	50559	262945	1906245	37.70
40	6	0.9441	0.0559	3650	54619	265470	1643300	30.09
45	5	0.9106	0.0894	4812	51569	246315	1377830	26.72
50	4	1.1404	-.1404	-8393	46957	231267	1131515	24.10
55	4	1.0515	-.0515	-2756	53550	274640	880248	16.44
60	4	0.7666	0.2334	15141	56306	248677	605608	10.76
65	3	0.7818	0.2182	9418	43165	192280	356931	8.27
70	2	0.5827	0.4173	14063	33747	133527	164651	4.88
75	1	0.0000	0.0000	0	19684	31124	31124	1.58

Table 3.5A.4.24 NYERI (FEMALES)

IA(I)	NPOP(I)	P(I)	Q(I)	D(I)	L(I)	TL(I)	T(I)	EX(I)
0	2576	0.8823	0.1177	11755	100000	470367	5831837	58.32
5	2189	0.9919	0.0081	710	88245	439400	5361250	60.76
10	1902	0.9940	0.0060	526	87535	436210	4921850	56.23
15	1353	0.9852	0.0148	1264	86999	431785	4485640	51.56
20	1003	0.9855	0.0145	1240	85715	425475	4053755	47.29
25	903	0.9850	0.0150	1271	84475	419197	3628280	42.95
30	801	0.9823	0.0177	1473	83204	412337	3209083	38.57
35	643	0.9694	0.0306	2504	81731	402395	2796746	34.22
40	533	0.9668	0.0332	2683	79227	389552	2394351	30.22
45	458	0.9723	0.0277	2116	76594	377675	2004799	26.17
50	423	0.9640	0.0360	2861	74478	365677	1627124	21.85
55	369	0.9399	0.0601	4315	71795	348187	1261447	17.57
60	329	0.9152	0.0848	5721	67480	323097	913260	13.53
65	301	0.8911	0.1089	6726	61759	291980	590163	9.56
70	240	0.8809	0.1191	6554	55033	258788	298183	5.42
75	198	0.0000	0.0000	0	48479	39403	39403	0.81

.THE ABRIDGED LIFE TABLES FOR MALES AND FEMALES THAT HAVE BEEN CONSTRUCTED FROM THE INCOMPLETE DEATH REGISTRATION DATA

Table 3.5A.4.25 TAITA (FEMALES)

IA(I)	NPOP(I)	P(I)	Q(I)	ISD(I)	L(I)	ISL(I)	IT(I)	EX(I)
0	107	0.8612	0.1388	15879	100000	465302	5657149	56.57
5	85	0.9744	0.0256	2262	86121	425100	5191847	60.29
10	70	1.0059	-.0059	-492	83919	420825	4766747	56.80
15	57	1.0044	-.0044	-367	84411	422972	4345922	51.49
20	47	0.9635	0.0365	1436	84778	420365	3922950	46.27
25	39	1.0048	-.0048	-401	83342	417662	3502585	42.01
30	36	0.9933	0.0067	556	83777	417460	3084683	36.82
35	32	0.9055	0.0945	7862	83215	396420	2667223	32.05
40	27	0.9790	0.0210	1753	75353	372607	2270782	30.14
45	22	0.9174	0.0826	6896	73770	353625	1897976	25.73
50	18	0.9677	0.0323	2656	67660	336512	1544351	22.82
55	15	1.0269	-.0269	-1929	66645	329047	1208039	18.07
60	12	0.7886	0.2114	14537	68774	307527	868992	12.64
65	6	1.0308	-.0308	-1669	54237	275357	561465	10.35
70	7	0.8804	0.1196	6484	55906	262220	286108	5.12
75	6	0.0000	0.0000	0	49222	23268	23268	0.47

Table 3.5A.4.26 NZOIA T (FEMALES)

IA(I)	NPOP(I)	P(I)	Q(I)	ISD(I)	L(I)	ISL(I)	IT(I)	EX(I)
0	3561	0.9361	0.0139	1388	100000	496530	7396355	73.96
5	2460	0.9964	0.0036	351	98612	492182	6899825	69.97
10	1688	0.9993	0.0007	67	98261	491137	6407643	65.21
15	1089	0.9991	0.0009	92	98194	490740	5916506	60.25
20	698	0.9957	0.0043	423	98102	489452	5425766	55.31
25	453	0.9993	0.0007	66	97679	488225	4936314	50.54
30	333	0.9992	0.0008	83	97611	487855	4448089	45.57
35	239	0.9964	0.0036	356	97531	487260	3960234	40.60
40	176	0.9912	0.0088	852	97373	486720	3472974	35.67
45	117	1.0077	-.0077	-746	96515	484440	2986254	30.95
50	76	0.9737	0.0263	2554	97261	479920	2503814	25.74
55	49	0.9803	0.0197	1931	94707	470252	2023894	21.37
60	31	0.9693	0.0307	2823	93436	459972	1553642	16.63
65	19	1.0462	-.0462	-4130	90583	448365	1093640	12.07
70	14	0.9223	0.0777	7352	94703	435410	630275	6.66
75	9	0.0000	0.0000	0	87401	174865	174865	2.00

Table 3.5A.4.27 GISHU U (FEMALES)

IA(I)	NPOP(I)	P(I)	Q(I)	ISD(I)	L(I)	ISL(I)	IT(I)	EX(I)
0	2235	0.9169	0.0831	8310	100000	479225	6706496	67.06
5	1667	0.9982	0.0018	181	91690	458047	6227271	67.92
10	1325	0.9974	0.0026	256	91529	457050	5769224	63.03
15	978	0.9962	0.0038	344	91291	455595	5312174	58.19
20	717	0.9966	0.0034	312	90947	453955	4856579	53.40
25	560	0.9862	0.0138	1246	90635	450060	4402624	48.58
30	484	0.9995	0.0005	46	89389	446625	3952564	44.22
35	390	0.9644	0.0356	1397	89341	443212	3505739	39.24
40	306	1.0027	-.0027	-236	87944	440215	3062527	34.82
45	242	0.9938	0.0062	543	88132	439552	2622212	29.74
50	197	1.0050	-.0050	-434	87589	439260	2182660	24.91
55	159	0.9789	0.0211	1862	88073	435710	1743380	19.79
60	115	0.9621	0.0379	3263	86211	422697	1307670	15.17
65	92	0.9755	0.0245	2035	82948	409632	884973	10.67
70	65	0.9556	0.0444	3761	80913	401682	475121	5.87
75	50	0.0000	0.0000	0	79752	73439	73439	0.92

THE ABRIDGED LIFE TABLES FOR MALES AND FEMALES THAT HAVE BEEN CONSTRUCTED FROM THE INCOMPLETE DEATH REGISTRATION DATA

Table 3.5A.4.28 W POKOT (FEMALES)

IA(I)	NPOP(I)	P(I)	Q(I)	ISD(I)	L(I)	ISL(I)	IT(I)	EX(I)
0	1200	0.9466	0.0534	5337	100000	466657	6657478	66.57
5	821	0.9996	0.0004	41	94663	473212	6170821	65.19
10	606	0.9884	0.0116	1101	94622	470357	5697609	60.21
15	406	0.9804	0.0196	793	93521	465122	5227252	55.89
20	286	0.9735	0.0265	1771	92728	457660	4762130	51.47
25	200	0.9775	0.0225	1859	90958	447582	4304470	47.54
30	151	0.9870	0.0130	1152	89099	439605	3856888	43.58
35	100	0.9960	0.0040	347	87945	435857	3417283	39.12
40	76	0.9818	0.0184	1602	87598	430985	2981426	34.27
45	59	1.0061	-.0061	-494	85996	425715	2550441	29.67
50	46	0.9823	0.0177	1496	86070	426210	2121726	24.65
55	32	1.0240	-.0240	-2024	84574	427030	1695516	20.09
60	23	1.0138	-.0138	-1169	86418	435062	1268486	14.68
65	17	0.9374	0.0626	5431	87607	424332	833424	9.51
70	11	0.6680	0.3320	27265	82176	342467	409092	4.98
75	5	0.0000	0.0000	0	54861	66625	66625	1.21

Table 3.5A.4.29 SIAYA (FEMALES)

IA(I)	NPOP(I)	P(I)	Q(I)	ISD(I)	L(I)	ISL(I)	IT(I)	EX(I)
0	9314	0.8620	0.1380	13803	100000	465492	5571528	55.72
5	7465	0.9882	0.0118	1017	86197	428442	5106036	59.24
10	6625	0.9956	0.0044	374	85180	424965	4677594	54.91
15	5646	0.9945	0.0055	466	84806	422860	4252629	50.15
20	4609	0.9930	0.0070	592	84338	420210	3829769	45.41
25	3970	0.9917	0.0083	697	83746	416987	3409559	40.71
30	2974	0.9888	0.0112	930	83049	412920	2992572	36.03
35	2209	0.9825	0.0175	1435	82119	407007	2579652	31.41
40	1848	0.9739	0.0261	2104	80684	398160	2172645	26.93
45	1235	0.9590	0.0410	4795	78580	380925	1774485	22.58
50	781	0.9278	0.0724	5645	73790	355557	1393560	18.89
55	650	0.9092	0.0908	6217	68145	326682	1037973	15.17
60	517	0.8600	0.1400	8716	62228	289360	711291	11.43
65	404	0.7880	0.2120	11344	53510	239220	421931	7.83
70	274	0.6766	0.3234	13637	42172	176767	182711	4.33
75	149	0.0000	0.0000	0	28535	5944	5944	0.21

Table 3.5A.4.30 EMOU (FEMALES)

IA(I)	NPOP(I)	P(I)	Q(I)	ISD(I)	L(I)	ISL(I)	IT(I)	EX(I)
0	1563	0.8354	0.1646	16459	100000	458852	5423669	54.24
5	1136	0.9802	0.0198	1653	83541	413572	4964817	59.43
10	932	0.9905	0.0095	774	81888	407505	4551245	55.58
15	693	0.9897	0.0103	835	81114	403482	4143740	51.09
20	513	0.9904	0.0096	773	80279	399462	3740258	46.59
25	413	0.9774	0.0226	1799	79506	393032	3340796	42.02
30	348	0.9636	0.0364	2825	77707	381472	2947764	37.93
35	279	0.9550	0.0450	3569	74882	365987	2566292	34.27
40	231	0.9513	0.0487	3882	71313	348860	2200305	30.77
45	192	0.9603	0.0397	2703	68031	333397	1851445	27.21
50	112	0.9731	0.0269	1766	65328	322240	1518048	23.24
55	88	0.9796	0.0204	1297	63564	314597	1195808	18.81
60	74	0.8672	0.1328	8259	62271	290682	881211	14.15
65	59	0.8501	0.1499	8394	54002	249775	590529	10.94
70	44	0.7570	0.2430	11157	45608	201647	340754	7.42
75	32	0.0000	0.0000	0	34751	139107	139107	4.00

THE ABRIDGED LIFE TABLES FOR MALES AND FEMALES THAT HAVE BEEN CONSTRUCTED FROM THE INCOMPLETE DEATH REGISTRATION DATA

Table 3.5A.4.31 MURANGA (FEMALES)

IA(I)	NPOP(I)	P(I)	Q(I)	ISD(I)	L(I)	ISL(I)	IT(I)	EX(I)
0	2723	0.8744	0.1256	1255	100000	465605	5859531	58.60
5	2079	0.9854	0.0146	1275	87442	434622	5390926	61.65
10	1680	0.9919	0.0081	699	86167	429037	4956304	57.53
15	1215	0.9947	0.0053	456	85466	426200	4527267	52.98
20	941	0.9865	0.0135	1145	85012	422197	4101067	48.25
25	793	0.9845	0.0155	1296	83867	416695	3679420	43.87
30	680	0.9797	0.0203	1675	82571	408672	3263325	39.52
35	556	0.9656	0.0344	2784	80898	397530	2854653	35.29
40	456	0.9717	0.0283	2209	78114	385047	2457123	31.46
45	388	0.9730	0.0270	2052	75905	374395	2072076	27.30
50	346	0.9616	0.0384	2835	73853	362177	1697681	22.99
55	303	0.9734	0.0266	1687	71018	350372	1335504	18.81
60	280	0.9096	0.0904	6246	69131	330040	985132	14.25
65	242	0.9513	0.0487	3061	62885	306772	655092	10.42
70	212	0.8924	0.1076	5438	59824	283025	348320	5.82
75	168	0.0000	0.0000	0	53386	65295	65295	1.22

Table 3.5A.4.32 GARISSA (FEMALES)

IA(I)	NPOP(I)	P(I)	Q(I)	ISD(I)	L(I)	ISL(I)	IT(I)	EX(I)
0	2220	0.9949	0.0051	507	100000	498732	7277551	72.78
5	1500	1.0002	-.0002	-16	99493	497505	6778819	68.13
10	1085	0.9996	0.0004	34	99509	497450	6281314	63.12
15	772	0.9992	0.0008	79	99475	497137	5783864	58.14
20	520	0.9995	0.0005	53	99400	496867	5286727	53.19
25	362	1.0011	-.0011	-107	99347	497002	4789859	48.21
30	273	0.9905	0.0095	941	99454	494917	4292795	43.16
35	205	1.0042	-.0042	-416	98513	493605	3797881	38.55
40	142	1.0034	-.0034	-336	98929	495435	3304276	33.40
45	100	0.9392	0.0108	1074	99265	493640	2808791	28.30
50	65	0.9684	0.0316	3106	98191	483190	2315151	23.56
55	46	0.9586	0.0414	3935	95085	465587	1831961	19.27
60	21	1.0151	-.0151	-1379	91150	459197	1366374	14.99
65	16	0.8603	0.1397	12924	92529	430335	907177	9.80
70	10	1.0964	-.0964	-7577	79605	417217	476842	5.99
75	7	0.0000	0.0000	0	87282	59625	59625	0.68

THE ABRIDGED LIFE TABLES FOR MALES AND FEMALES THAT HAVE BEEN CONSTRUCTED FROM THE INCOMPLETE DEATH REGISTRATION DATA

Table 3.5B.4. 1 KENYA (MALES)

IA(I)	NPOP(I)	P(I)	Q(I)	ISD(I)	L(I)	ISL(I)	IT(I)	EX(I)
0	76082	0.8904	0.1096	10957	100000	472637	5743679	57.44
5	58376	0.9851	0.0149	1323	89043	441907	5271072	59.20
10	49251	0.9901	0.0099	871	87720	436422	4829165	55.05
15	40171	0.9882	0.0118	1024	86849	431635	4392743	50.58
20	32115	0.9844	0.0156	1355	85825	425787	3961056	46.15
25	25799	0.9758	0.0242	2041	84470	417347	3535271	41.84
30	20732	0.9705	0.0295	2432	82449	406165	3117924	37.82
35	16733	0.9643	0.0357	2860	80017	392935	2711759	33.89
40	15023	0.9549	0.0451	3477	77157	377092	2318824	30.05
45	12342	0.9451	0.0549	4044	73680	358290	1941732	26.35
50	10344	0.9201	0.0799	5505	69636	334267	1583442	22.74
55	8091	0.9122	0.0878	5627	64071	306287	1249175	19.50
60	6654	0.8625	0.1375	8054	58444	272135	942888	16.13
65	5592	0.8489	0.1511	7617	50410	233807	670753	13.31
70	4098	0.7692	0.2308	9676	42793	139275	437746	10.23
75	2668	0.0000	0.0000	0	32917	248471	248471	7.55

Table 3.5B.4. 2 BARINGO (MALES)

IA(I)	NPOP(I)	P(I)	Q(I)	ISD(I)	L(I)	ISL(I)	IT(I)	EX(I)
0	170	0.8968	0.1032	10320	100000	474200	4796361	47.96
5	135	0.9734	0.0266	2567	89680	442432	4322161	48.20
10	120	0.9683	0.0317	2767	87293	429547	3879729	44.44
15	103	0.9792	0.0208	1761	84526	418227	3450182	40.82
20	84	0.9415	0.0585	4841	82765	401722	3031955	36.63
25	67	0.9058	0.0942	7537	77924	371277	2630233	33.75
30	53	0.9197	0.0803	5868	70567	336765	2258956	32.00
35	40	0.9289	0.0711	4616	64919	313055	1920191	29.58
40	36	0.8910	0.1090	6570	60303	285090	1607136	26.65
45	29	0.9107	0.0893	4474	53733	257480	1322046	24.60
50	26	0.8551	0.1449	7136	49259	228435	1064566	21.61
55	22	0.8751	0.1249	5200	42123	197405	836111	19.85
60	19	0.7965	0.2035	7500	36863	165565	638646	17.32
65	14	1.0567	-.0567	-1665	29363	150977	473031	16.11
70	10	0.9404	0.0596	1663	31028	150982	322104	10.38
75	9	0.0000	0.0000	0	29365	171122	171122	5.83

Table 3.5B.4. 3 BUNGOMA (MALES)

IA(I)	NPOP(I)	P(I)	Q(I)	ISD(I)	L(I)	ISL(I)	IT(I)	EX(I)
0	4071	0.8760	0.1240	12396	100000	469010	5915906	59.16
5	2972	0.9319	0.0181	1565	87604	434057	5446896	62.16
10	2486	0.9892	0.0108	952	86019	427765	5012839	58.23
15	2043	0.9876	0.0124	1050	85067	422810	4585074	53.89
20	1592	0.9868	0.0112	944	84017	417525	4162264	49.55
25	1245	0.9827	0.0173	1437	83093	411872	3744439	45.06
30	945	0.9776	0.0224	1831	81656	403702	3332567	40.81
35	782	0.9711	0.0289	2309	79825	393352	2928865	36.69
40	696	0.9582	0.0418	3238	77516	379485	2535513	32.71
45	580	0.9571	0.0429	3186	74278	363423	2156028	29.03
50	452	0.9515	0.0485	3448	71092	346840	1792603	25.22
55	348	0.9455	0.0545	3686	67644	329005	1445763	21.37
60	282	0.9031	0.0969	6200	63953	304290	1116758	17.46
65	235	0.9027	0.0973	5620	57758	274740	812468	14.07
70	194	0.7901	0.2099	10945	52138	233327	537728	10.31
75	107	0.0000	0.0000	0	41193	304401	304401	7.39

THE ABRIDGED LIFE TABLES FOR MALES AND FEMALES THAT HAVE BEEN CONSTRUCTED FROM THE INCOMPLETE DEATH REGISTRATION DATA

Table 3.5B.4. 4 BUSIA (MALES)

IA(I)	NPOP(I)	P(I)	Q(I)	ISD(I)	L(I)	ISL(I)	IT(I)	EX(I)
0	4160	0.9417	0.0583	5833	100000	485417	6650850	66.51
5	3295	0.9889	0.0111	1040	94167	466235	6165433	65.47
10	2774	0.9969	0.0031	292	93127	464905	5699198	61.18
15	2256	0.9962	0.0038	353	92835	463292	5234293	56.36
20	1650	0.9975	0.0025	235	92482	461822	4769001	51.57
25	1231	0.9962	0.0038	354	92247	460350	4307179	46.69
30	977	0.9942	0.0058	529	91893	458142	3846829	41.86
35	799	0.9865	0.0135	1230	91364	453745	3388687	37.09
40	728	0.9672	0.0328	2950	90134	443280	2934942	32.56
45	581	0.9623	0.0377	3264	87176	427660	2491662	28.58
50	448	0.9275	0.0725	6085	83894	404257	2063952	24.60
55	324	0.9159	0.0851	6701	77809	372292	1659725	21.33
60	248	0.8677	0.1323	9405	71108	332027	1287433	18.11
65	170	0.8796	0.1204	7426	61703	289945	955406	15.48
70	135	0.8599	0.1401	7603	54275	252367	665461	12.26
75	104	0.0000	0.0000	0	46672	413094	413094	8.85

Table 3.5B.4. 5 KISUMU (MALES)

IA(I)	NPOP(I)	P(I)	Q(I)	ISD(I)	L(I)	ISL(I)	IT(I)	EX(I)
0	1600	0.7756	0.2244	22443	100000	443392	4227892	42.28
5	1103	0.9638	0.0362	2806	77557	360770	3784000	42.79
10	993	0.9812	0.0188	1402	74751	370250	3403230	45.53
15	909	0.9757	0.0243	1785	73349	362232	3032980	41.35
20	820	0.9698	0.0302	2164	71564	352410	2670748	37.32
25	743	0.9614	0.0386	2676	69400	340310	2318338	33.40
30	650	0.9581	0.0419	2792	66724	326640	1977976	29.64
35	556	0.9342	0.0658	4205	63932	309147	1651338	25.83
40	492	0.9141	0.0859	5132	59727	285605	1342191	22.47
45	418	0.8926	0.1074	5864	54595	258315	1056586	19.35
50	363	0.8423	0.1577	7682	48731	224450	798071	16.38
55	286	0.8136	0.1864	7650	41049	186120	573621	13.97
60	225	0.7399	0.2601	8668	33399	145275	387501	11.60
65	158	0.7338	0.2662	6577	24711	107112	242226	9.80
70	93	0.6260	0.3740	6762	18134	73715	135114	7.45
75	46	0.0000	0.0000	0	11352	61399	61399	5.41

Table 3.5B.4. 6 ELGEYO M(MALES)

IA(I)	NPOP(I)	P(I)	Q(I)	ISD(I)	L(I)	ISL(I)	IT(I)	EX(I)
0	57	0.4670	0.5330	53303	100000	366742	2631835	26.32
5	26	0.9263	0.0717	3350	46697	225110	2265093	48.51
10	24	0.8978	0.1022	4428	43347	205665	2039983	47.06
15	20	0.9360	0.0140	544	38919	193235	1834318	47.13
20	19	0.9224	0.0776	2977	38375	184432	1641083	42.76
25	17	1.0473	-.0473	-1675	35398	161177	1456651	41.15
30	17	0.8580	0.1420	5262	37073	172210	1275474	34.40
35	14	0.9644	0.0356	1134	31811	156220	1103264	34.68
40	12	0.8514	0.1486	4559	30677	141937	947044	30.87
45	10	1.0379	-.0379	-990	26118	133065	805057	30.82
50	9	0.9090	0.0910	2466	27106	129375	671992	24.79
55	8	1.0298	-.0298	-735	24642	125047	542617	22.02
60	8	1.1152	-.1152	-2922	25377	134190	417570	16.45
65	8	1.0317	-.0317	-896	28299	143735	283380	10.01
70	8	0.7026	0.2974	8682	29195	124270	139645	4.78
75	5	0.0000	0.0000	0	20513	15375	15375	0.75

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Table 3.58.4. 7 EMBU (MALES)

IA(I)	NPOP(I)	P(I)	Q(I)	ISD(I)	L(I)	ISL(I)	IT(I)	EX(I)
0	2252	0.8766	0.1234	12337	100000	409157	5825751	58.26
5	1713	0.9871	0.0129	1129	87663	435492	5416594	61.79
10	1415	0.9933	0.0067	581	86534	431217	4981102	57.56
15	1068	0.9857	0.0143	1232	85953	426635	4549885	52.93
20	788	0.9873	0.0127	1071	84721	420927	4123250	48.67
25	613	0.9794	0.0206	1720	83650	413950	3702275	44.26
30	457	0.9749	0.0251	1693	81930	404917	3288325	40.14
35	369	0.9588	0.0412	3299	80237	391937	2883406	36.03
40	311	0.9600	0.0400	3066	76938	376025	2491469	32.47
45	245	0.9462	0.0538	3965	73872	356452	2115444	28.71
50	187	0.9456	0.0544	3791	69709	339067	1758992	25.20
55	145	0.9464	0.0536	3533	65918	320757	1419925	21.51
60	120	0.8262	0.1738	10807	62385	284907	1099168	17.59
65	93	0.8031	0.1969	10156	51578	232500	814261	15.75
70	60	0.6963	0.3037	12498	41422	175095	579761	14.00
75	40	0.0000	0.0000	0	28924	403896	403896	13.96

Table 3.58.4. 8 MURANGA (MALES)

IA(I)	NPOP(I)	P(I)	Q(I)	ISD(I)	L(I)	ISL(I)	IT(I)	EX(I)
0	6771	0.9441	0.0559	5588	100000	486030	7073035	70.73
5	5555	0.9934	0.0066	625	94412	470497	6586973	69.77
10	4526	0.9965	0.0035	331	93787	466107	6116476	65.22
15	3373	0.9950	0.0050	468	93456	466110	5648369	60.44
20	2573	0.9914	0.0086	800	92988	462940	5182259	55.73
25	2158	0.9898	0.0102	936	92188	458595	4719319	51.19
30	1657	0.9883	0.0117	1069	91253	453577	4260724	46.69
35	1218	0.9843	0.0157	1416	90181	447366	3807147	42.22
40	966	0.9902	0.0098	869	88765	441642	3359787	37.85
45	747	0.9661	0.0339	2979	87894	432022	2918145	33.20
50	605	0.9512	0.0488	4143	84915	414217	2486123	29.28
55	490	0.9555	0.0445	3591	80772	394362	2071906	25.65
60	419	0.8955	0.1045	8061	77181	365752	1677024	21.73
65	365	0.9252	0.0748	5172	69120	332670	1311272	18.97
70	320	0.8495	0.1505	9621	63948	295637	978602	15.30
75	237	0.0000	0.0000	0	54327	682915	682915	12.57

Table 3.58.4. 9 GARISA (MALES)

IA(I)	NPOP(I)	P(I)	Q(I)	ISD(I)	L(I)	ISL(I)	IT(I)	EX(I)
0	603	0.9664	0.0336	3360	100000	491000	6829444	68.29
5	426	0.9949	0.0051	489	96640	481977	6338444	65.58
10	328	0.9938	0.0062	597	96151	479262	5856467	60.90
15	256	1.0010	-.0010	-99	95554	478017	5376805	56.27
20	196	0.9983	0.0017	163	95653	477657	4898788	51.21
25	154	0.9801	0.0199	1900	95490	472780	4420731	46.30
30	112	0.9526	0.0474	4439	93590	456852	3948051	42.18
35	79	0.9904	0.0096	351	89151	443627	3491179	39.16
40	56	1.0064	-.0064	-562	88800	442905	3047552	34.51
45	43	0.9385	0.0615	5461	88862	439657	2604647	29.31
50	36	0.9563	0.0437	3846	83401	407885	2173990	26.07
55	27	0.9246	0.0754	6009	79753	383742	1766105	22.14
60	22	0.9231	0.0769	5667	73744	354552	1382363	18.75
65	18	1.0264	-.0264	-1797	68077	344877	1027811	15.10
70	16	0.9258	0.0742	5161	59674	336417	682934	9.77
75	10	0.0000	0.0000	0	54693	346517	346517	5.56

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Table 3.5B.4.10 KAJIADO (MALES)

IA(I)	NPOP(I)	P(I)	Q(I)	ISD(I)	L(I)	ISL(I)	IT(I)	EX(I)
0	1229	0.9288	0.0712	7122	100000	462195	6298876	62.99
5	851	0.9643	0.0157	1455	92878	460752	5836681	62.83
10	617	0.9913	0.0087	795	91423	455127	5375929	58.58
15	445	0.9910	0.0090	817	90628	451697	4920802	54.08
20	331	0.9803	0.0197	1765	89811	444842	4469705	49.55
25	257	0.9813	0.0187	1645	88046	436117	4005863	45.49
30	177	0.9775	0.0225	1945	86401	427142	3569746	41.31
35	135	0.9659	0.0341	2863	84456	415072	3141804	37.20
40	113	0.9543	0.0457	3725	81573	398552	2726732	33.43
45	88	0.9696	0.0304	2570	77848	383315	2328180	29.91
50	72	0.9251	0.0749	5859	75278	368265	1944865	25.77
55	57	0.9590	0.0410	3567	69326	347222	1581600	22.65
60	47	0.9372	0.0628	4337	65061	324462	1234378	17.87
65	40	0.8777	0.1223	7914	60724	303035	899916	13.90
70	30	0.8556	0.1444	8202	52810	263545	596881	10.49
75	21	0.0000	0.0000	0	43608	332536	332536	6.84

Table 3.5B.4.11 KAKAMEGA(MALES)

IA(I)	NPOP(I)	P(I)	Q(I)	ISD(I)	L(I)	ISL(I)	IT(I)	EX(I)
0	5573	0.8459	0.1541	15413	100000	461487	5591962	55.92
5	4235	0.9771	0.0229	1957	84587	418092	5130495	60.65
10	3612	0.9877	0.0123	1019	82650	410702	4712403	57.02
15	3147	0.9905	0.0095	773	81631	406222	4301701	52.70
20	2625	0.9871	0.0129	1041	80858	401637	3895479	48.18
25	2125	0.9823	0.0177	1415	79817	395547	3493792	43.77
30	1671	0.9764	0.0236	1880	78402	387585	3098245	39.52
35	1382	0.9785	0.0215	1646	76552	376645	2710660	35.41
40	1311	0.9690	0.0310	2323	74906	368722	2332215	31.14
45	1140	0.9608	0.0392	2848	72583	355795	1963493	27.05
50	970	0.9374	0.0626	4384	69735	337705	1607698	23.05
55	799	0.9282	0.0718	4695	65371	315117	1269993	19.43
60	693	0.8935	0.1065	6461	60676	287227	954816	15.74
65	551	0.8580	0.1420	7696	54215	251635	667589	12.31
70	386	0.8769	0.3231	15030	46519	195020	415754	8.94
75	185	0.0000	0.0000	0	31489	220734	220734	7.01

Table 3.5B.4.12/KERICHO (MALES)

IA(I)	NPOP(I)	P(I)	Q(I)	ISD(I)	L(I)	ISL(I)	IT(I)	EX(I)
0	623	0.7242	0.2758	27577	100000	431057	4614893	46.15
5	386	0.9661	0.0339	2454	72423	355930	4183841	57.77
10	336	0.9792	0.0208	1452	69969	346215	3827861	54.71
15	289	0.9811	0.0189	1292	68517	339555	3481646	50.81
20	233	0.9772	0.0228	1533	67225	332292	3142291	46.74
25	194	0.9863	0.0137	898	65692	326215	2809999	42.76
30	167	0.9633	0.0367	2374	64794	318835	2483734	38.33
35	138	0.9773	0.0227	1416	62420	306560	2165749	34.70
40	133	0.9140	0.0860	5249	61004	291697	1857139	30.44
45	99	0.9847	0.0153	855	55755	276637	1565292	28.07
50	90	0.9355	0.0645	3543	54900	265642	1288655	23.47
55	76	0.9646	0.0354	1818	51357	252240	1023013	19.92
60	63	0.9221	0.0779	3858	49539	238050	770773	15.56
65	57	0.9458	0.0542	2475	45681	222217	532723	11.66
70	47	0.9562	0.0418	1807	43206	211512	310506	7.19
75	42	0.0000	0.0000	0	41399	98994	98994	2.39

THE ABRIDGED LIFE TABLES FOR MALES AND FEMALES THAT HAVE BEEN CONSTRUCTED FROM THE INCOMPLETE DEATH REGISTRATION DATA

Table 3.5B.4.13 KIRINYAG(MALES)

IA(I)	NPOP(I)	P(I)	Q(I)	ISD(I)	L(I)	ISL(I)	IT(I)	EX(I)
0	1308	0.7908	0.2092	20924	100000	447695	5272225	52.72
5	966	0.9813	0.0187	1830	79076	391690	4824530	61.01
10	818	0.9916	0.0084	851	77593	386362	4432840	57.13
15	698	0.9940	0.0060	462	76947	383580	4046478	52.59
20	455	0.9863	0.0137	1044	76485	379815	3662898	47.89
25	377	0.9837	0.0163	1230	75441	374130	3283083	43.52
30	307	0.9691	0.0309	2293	74211	365322	2908953	39.20
35	250	0.9644	0.0356	2662	71918	353135	2543631	35.37
40	230	0.9799	0.0201	1595	69256	343297	2190446	31.58
45	214	0.9500	0.0500	3800	67966	331815	1847149	27.18
50	193	0.9389	0.0611	3945	64565	312952	1515334	23.48
55	152	0.9351	0.0649	2344	60616	295960	1202382	19.84
60	135	0.8520	0.1480	6551	57774	267492	906902	15.70
65	113	0.8796	0.1204	5926	49223	231295	639410	12.99
70	93	0.8371	0.1629	7051	43295	198647	408115	9.43
75	72	0.0000	0.0000	0	36244	209268	209268	5.77

Table 3.5B.4.14 MACHAKOS(MALES)

IA(I)	NPOP(I)	P(I)	Q(I)	ISD(I)	L(I)	ISL(I)	IT(I)	EX(I)
0	7199	0.8897	0.1103	11029	100000	472427	6091641	60.92
5	5515	0.9814	0.0186	1850	88971	440730	5619214	63.16
10	4483	0.9860	0.0140	1224	87321	433545	5178484	59.30
15	3614	0.9870	0.0130	1119	86097	427657	4744939	55.11
20	2809	0.9828	0.0172	1462	84978	421235	4317282	50.80
25	2127	0.9768	0.0232	1939	83516	412732	3896047	46.65
30	1649	0.9805	0.0195	1591	81577	403907	3483265	42.70
35	1289	0.9647	0.0353	2821	79986	392677	3079375	38.50
40	1095	0.9597	0.0403	3106	77165	378060	2686501	34.82
45	939	0.9607	0.0393	2911	74059	363017	2308441	31.17
50	844	0.9281	0.0719	5112	71148	342960	1945424	27.34
55	621	0.9366	0.0634	4167	66036	319712	1602464	24.27
60	548	0.9018	0.0982	6071	61869	294067	1282752	20.74
65	439	0.8947	0.1053	5874	55796	264205	988685	17.73
70	305	0.8523	0.1477	7371	49904	231092	724480	14.52
75	253	0.0000	0.0000	0	42533	493388	493388	11.60

Table 3.5B.4.15 LAMU (MALES)

IA(I)	NPOP(I)	P(I)	Q(I)	ISD(I)	L(I)	ISL(I)	IT(I)	EX(I)
0	548	0.9750	0.0250	2504	100000	493740	7458365	74.58
5	391	1.0013	-.0013	-126	97496	487795	6964625	71.43
10	281	1.0008	-.0008	-62	97622	488315	6476830	66.35
15	196	1.0038	-.0038	-370	97704	489445	5988515	61.29
20	118	0.9963	0.0037	363	98074	489470	5499070	56.07
25	77	1.0001	-.0001	-8	97714	488590	5009600	51.27
30	53	1.0032	-.0032	-315	97722	489397	4521010	46.26
35	37	1.0236	-.0236	-2309	98037	495957	4031613	41.12
40	28	0.9942	0.0058	578	100346	500285	3535656	35.23
45	21	0.8431	0.1569	15649	99768	459717	3035371	30.42
50	13	1.0049	-.0049	-416	84119	421635	2575654	30.62
55	10	1.0356	-.0356	-3011	84535	430202	2154019	25.48
60	8	0.8825	0.1175	10265	87546	412017	1723817	19.69
65	6	0.8349	0.1651	12757	77281	358112	1311800	16.98
70	4	0.8564	0.1416	9133	64504	299687	957338	14.84
75	3	0.0000	0.0000	0	55371	657701	657701	11.88

THE ABRIDGED LIFE TABLES FOR MALES AND FEMALES THAT HAVE BEEN CONSTRUCTED FROM THE INCOMPLETE DEATH REGISTRATION DATA

3.5b.4.16 KISII (MALES)

IA(I)	NPOP(I)	P(I)	Q(I)	ISD(I)	L(I)	ISL(I)	IT(I)	EX(I)
0	757	0.8783	0.1217	12170	100000	469575	4409680	44.10
5	596	0.9508	0.0492	4917	87830	426357	3940105	44.86
10	523	0.9612	0.0388	3869	82913	413642	3511748	42.35
15	462	0.9793	0.0207	1997	81944	405477	3098106	37.81
20	375	0.9749	0.0251	2011	80247	396207	2692629	33.55
25	309	0.9507	0.0493	3853	78236	381547	2296422	29.35
30	260	0.9183	0.0817	6077	74383	356722	1914875	25.74
35	217	0.9114	0.0886	6055	68306	326392	1558153	22.81
40	191	0.8277	0.1723	10723	62251	284447	1231761	19.79
45	141	0.8198	0.1802	9200	51528	234425	947314	18.38
50	104	0.8493	0.1507	6383	42242	195302	712889	16.88
55	77	0.9149	0.0851	3054	35879	171760	517587	14.43
60	63	0.8044	0.3956	12966	32825	131660	345827	10.54
65	36	0.5826	0.4174	6260	19859	78495	214167	10.80
70	20	0.5966	0.4034	4663	11559	46137	135672	11.74
75	11	0.0000	0.0000	0	6896	89535	89535	12.98

3.5b.4.17 KITUI (MALES)

IA(I)	NPOP(I)	P(I)	Q(I)	ISD(I)	L(I)	ISL(I)	IT(I)	EX(I)
0	827	0.7459	0.2541	25406	100000	436480	4503379	45.03
5	553	0.9579	0.0421	3136	74592	365115	4066899	54.52
10	440	0.9853	0.0147	1050	71454	354645	3701784	51.81
15	336	0.9694	0.0306	2151	70404	346642	3347139	47.54
20	260	0.9689	0.0311	2123	68253	335957	3000497	43.96
25	238	0.9891	0.0109	719	66130	328852	2664540	40.29
30	215	0.9674	0.0326	2130	65411	321730	2335688	35.71
35	190	0.9445	0.0555	3514	63281	307620	2013958	31.83
40	175	0.9469	0.0531	3175	59767	290697	1706338	28.55
45	162	0.9285	0.0715	4047	56592	272842	1415441	25.01
50	137	0.8527	0.1473	7740	52545	243375	1142599	21.75
55	101	0.8612	0.1388	6220	44805	208475	899224	20.07
60	86	0.7866	0.2134	8226	38585	172355	690749	17.90
65	66	0.8452	0.1548	4699	30357	140037	518394	17.08
70	48	0.8751	0.1249	3256	25658	120150	378357	14.75
75	40	0.0000	0.0000	0	22402	258207	258207	11.53

3.5b.4.18 KWALE (MALES)

IA(I)	NPOP(I)	P(I)	Q(I)	ISD(I)	L(I)	ISL(I)	IT(I)	EX(I)
0	1060	0.9128	0.0872	8715	100000	478212	6136496	61.36
5	810	0.9921	0.0079	722	91285	454620	5658284	61.98
10	689	0.9892	0.0108	982	90563	450360	5203664	57.46
15	570	0.9768	0.0232	2080	89581	442705	4753304	53.06
20	452	0.9610	0.0390	1659	87501	433357	4310599	49.26
25	350	0.9716	0.0284	2435	85842	423122	3877242	45.17
30	292	0.9949	0.0051	426	83407	415970	3454120	41.41
35	246	0.9614	0.0386	3208	82981	406905	3038150	36.61
40	224	0.9525	0.0475	3789	79781	389432	2631245	32.98
45	175	0.9932	0.0068	515	75992	376072	2241813	29.50
50	150	0.9705	0.0295	2222	75477	371830	1863141	24.68
55	116	0.9417	0.0583	4268	73255	355605	1491311	20.36
60	85	0.8630	0.1370	9449	68987	321312	1135706	16.46
65	63	0.9637	0.0313	1863	59538	293032	814394	13.68
70	54	0.7279	0.2721	15690	57675	249150	521362	9.04
75	34	0.0000	0.0000	0	41985	272212	272212	6.48

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Table 3.56.4.19 MERU (MALES)

IA(I)	NPOP(I)	P(I)	Q(I)	ISD(I)	L(I)	ISL(I)	IT(I)	EX(I)
0	2107	0.0001	0.1339	13394	100000	466515	5381716	53.82
5	1527	0.9798	0.0202	1746	86606	428663	4915201	56.75
10	1293	0.9851	0.0149	1290	84855	421140	4486541	52.87
15	1067	0.9876	0.0122	1017	83565	415447	4065401	48.63
20	862	0.9867	0.0133	1095	82581	410167	3649954	44.20
25	705	0.9722	0.0278	2264	81486	401770	3239787	39.76
30	553	0.9553	0.0447	3540	79222	387260	2838017	35.82
35	427	0.9544	0.0456	3452	75682	369730	2450757	32.38
40	372	0.9418	0.0582	4205	72230	350637	2080977	28.81
45	286	0.9543	0.0457	3103	68025	332355	1730340	25.44
50	262	0.8704	0.1296	8412	64917	303555	1397985	21.53
55	185	0.9322	0.0678	5030	56505	272950	1094430	19.37
60	144	0.7671	0.2329	12265	52675	232712	821480	15.60
65	110	0.9089	0.0911	3679	40410	192052	588768	14.57
70	86	0.8361	0.3639	13305	36731	150242	395916	10.78
75	48	0.0000	0.0000	0	23366	245674	245674	10.51

Table 3.56.4.20 MOMBASA (MALES)

IA(I)	NPOP(I)	P(I)	Q(I)	ISD(I)	L(I)	ISL(I)	IT(I)	EX(I)
0	3492	0.8389	0.1611	16107	100000	459732	4866692	48.67
5	2465	0.9878	0.0122	1025	83893	416932	4406960	52.53
10	2073	0.9867	0.0133	1099	82868	411592	3990058	48.15
15	1801	0.9847	0.0153	1252	81769	405715	3578466	43.76
20	1658	0.9847	0.0153	1231	80517	399507	3172751	39.40
25	1373	0.9697	0.0303	2399	79286	390432	2773244	34.98
30	1126	0.9566	0.0434	3325	76887	376127	2382812	30.99
35	941	0.9470	0.0530	3896	73564	358075	2006685	27.23
40	867	0.9295	0.0705	4907	69668	336062	1648610	23.66
45	669	0.9183	0.0817	5267	64759	310577	1312548	20.27
50	526	0.8728	0.1272	7567	59472	278442	1001971	16.85
55	371	0.8441	0.1559	8091	51905	239297	723529	13.94
60	270	0.7482	0.2518	11034	43814	191435	484232	11.05
65	190	0.8886	0.3114	10209	32780	138377	292797	8.93
70	122	0.7041	0.2959	6077	22571	96162	154378	6.84
75	85	0.0000	0.0000	0	15894	58208	58208	3.66

Table 3.56.4.21 NAIROBI (MALES)

IA(I)	NPOP(I)	P(I)	Q(I)	ISD(I)	L(I)	ISL(I)	IT(I)	EX(I)
0	13773	0.9205	0.0795	7954	100000	460115	5378226	53.78
5	10151	0.9920	0.0080	734	92046	458395	4898111	53.21
10	8231	0.9934	0.0066	599	91312	455062	4439716	48.62
15	6492	0.9889	0.0111	1006	90713	451050	3984654	43.93
20	5037	0.9771	0.0229	2056	89707	443395	3533604	39.39
25	3654	0.9556	0.0444	3888	87651	428535	3090209	35.26
30	2591	0.9477	0.0523	4382	83763	407860	2661674	31.78
35	1912	0.9443	0.0557	4422	79381	385550	2253814	28.39
40	1626	0.9290	0.0710	5319	74959	361497	1868264	24.92
45	1259	0.9190	0.0810	5642	69640	334095	1506467	21.63
50	988	0.8975	0.1025	6560	63998	305590	1172372	18.32
55	735	0.8708	0.1292	7419	57438	268642	866782	15.13
60	543	0.8331	0.1669	8346	50019	229230	600140	12.00
65	434	0.7891	0.2109	8790	41673	186390	370910	8.90
70	298	0.7613	0.2387	7850	32883	144790	184520	5.61
75	204	0.0000	0.0000	0	25033	39730	39730	1.59

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Table 3.58.4.22 NANDI (MALES)

IA(I)	NPOP(I)	P(I)	Q(I)	I5D(I)	L(I)	I5L(I)	IT(I)	EX(I)
0	136	0.8543	0.1452	14521	100000	463697	6414613	64.15
5	96	0.9940	0.0060	514	85479	426113	5950921	69.62
10	76	0.9872	0.0128	1089	84965	422132	5524811	65.02
15	77	0.9940	0.0060	502	83876	416125	5102709	60.84
20	60	1.0103	-.0103	-855	83374	419067	4686584	56.19
25	48	1.0167	-.0167	-1376	84229	425090	4265577	50.64
30	42	1.0121	-.0121	-1038	85607	431630	3840487	44.76
35	35	0.9765	0.0265	2305	86345	428462	3408857	39.25
40	30	0.9456	0.0544	4601	84540	411197	2980395	35.25
45	25	0.9889	0.0111	885	79939	387475	2569198	32.14
50	24	1.0016	-.0016	-124	79051	395565	2171723	27.47
55	20	0.9699	0.0301	2363	79175	389917	1776158	22.43
60	18	0.9496	0.0504	3873	76792	374277	1386241	18.05
65	17	1.0460	-.0460	-3354	72919	372930	1011964	13.88
70	16	1.0190	-.0190	-1446	76273	384935	638984	8.38
75	15	0.0000	0.0000	0	77721	253999	253999	3.27

Table 3.58.4.23 NAROK (MALES)

IA(I)	NPOP(I)	P(I)	Q(I)	I5D(I)	L(I)	I5L(I)	IT(I)	EX(I)
0	263	0.8102	0.1896	18976	100000	452555	5243834	52.44
5	158	0.9819	0.0331	3363	81022	397402	4791279	59.14
10	114	1.0079	-.0079	-814	77939	391230	4393877	56.38
15	87	1.0013	-.0013	-100	78553	393015	4002647	50.95
20	67	0.9531	0.0469	3692	78653	384035	3609632	45.89
25	45	1.0112	-.0112	-840	74961	376905	3225597	43.03
30	36	0.9456	0.0544	4126	75801	368690	2848692	37.58
35	26	0.8534	0.1466	10504	71675	332115	2480002	34.60
40	17	0.9789	0.0211	1292	61171	302825	2147887	35.11
45	13	0.8009	0.1991	11919	59879	269597	1845262	30.82
50	9	1.0292	-.0292	-1400	47960	243300	1575665	32.85
55	7	1.0330	-.0330	-1627	49360	250867	1332365	26.97
60	6	0.8590	0.1410	7196	50987	236960	1081498	21.21
65	5	1.1262	-.1262	-5527	43797	232802	844538	19.28
70	5	0.9039	0.0961	4738	49324	234775	611736	12.40
75	4	0.0000	0.0000	0	44586	376961	376961	8.45

Table 3.58.4.24 NYANDARU(MALES)

IA(I)	NPOP(I)	P(I)	Q(I)	I5D(I)	L(I)	I5L(I)	IT(I)	EX(I)
0	189	0.8829	0.1171	11710	100000	470725	6368356	63.68
5	158	0.9715	0.0235	2519	88290	435152	5897631	66.80
10	131	0.9921	0.0079	676	85771	427160	5462479	63.69
15	93	0.9930	0.0070	596	85093	423975	5035319	59.17
20	72	1.0077	-.0077	-647	84497	424102	4611344	54.57
25	70	1.0019	-.0019	-161	85144	426122	4187242	49.13
30	70	1.0107	-.0107	-913	85305	426807	3761120	44.09
35	70	0.9856	0.0144	1240	86218	427990	3332313	38.65
40	68	0.9919	0.0081	686	84978	423170	2904323	34.18
45	61	0.9769	0.0231	1947	84290	416532	2481153	29.44
50	56	0.9721	0.0279	2293	82343	405982	2064571	25.07
55	48	0.9272	0.0728	5823	80050	385060	1658589	20.72
60	43	0.9048	0.0952	7065	74222	353447	1272939	17.15
65	37	0.9346	0.0654	4994	67157	324800	919462	13.69
70	31	0.9453	0.0547	3435	62763	305227	594662	9.47
75	23	0.0000	0.0000	0	59328	289435	289435	4.88

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Table 3.56.4.25 NYERI (MALES)

IA(I)	NPOP(I)	P(I)	Q(I)	ISD(I)	L(I)	ISL(I)	IT(I)	EX(I)
0	3194	0.9094	0.0906	9059	100000	477352	6358001	63.58
5	2726	0.9912	0.0088	796	90941	452710	5880649	64.44
10	2416	0.9951	0.0049	624	90143	449155	5427939	59.99
15	1764	0.9894	0.0106	951	89519	445217	4978784	55.39
20	1323	0.9841	0.0159	1406	88568	439325	4533567	50.96
25	1149	0.9830	0.0170	1479	87162	432112	4074242	46.74
30	961	0.9702	0.0298	2557	85683	422022	3642130	42.51
35	735	0.9676	0.0324	2690	83126	408905	3220108	38.74
40	597	0.9543	0.0457	3673	80436	392997	2811203	34.95
45	476	0.9607	0.0393	3015	76763	376277	2418206	31.50
50	413	0.9177	0.0823	6066	73748	353575	2041929	27.69
55	329	0.9003	0.0997	6749	67682	321537	1688354	24.95
60	283	0.9060	0.0940	5730	60933	290340	1366817	22.43
65	252	0.8052	0.1948	10754	55203	249130	1076477	19.50
70	154	0.6839	0.3161	14052	44449	187115	827347	18.61
75	111	0.0000	0.0000	0	30397	640232	640232	21.06

Table 3.56.4.26 S NYANZA (MALES)

IA(I)	NPOP(I)	P(I)	Q(I)	ISD(I)	L(I)	ISL(I)	IT(I)	EX(I)
0	615	0.7364	0.2636	26355	100000	434112	4409505	44.10
5	550	0.9658	0.0342	2321	73645	301922	3975393	53.98
10	496	0.9899	0.0101	717	71124	353627	3613471	50.81
15	433	0.9804	0.0196	1380	70407	348585	3259844	46.30
20	357	0.9841	0.0159	1095	69027	342397	2911059	42.17
25	316	0.9703	0.0297	2014	67932	334625	2568662	37.81
30	280	0.9757	0.0243	1688	65918	325590	2234037	33.89
35	251	0.9359	0.0641	4124	64316	311230	1908447	29.67
40	219	0.9466	0.0514	3091	60194	293242	1597107	26.53
45	193	0.9176	0.0824	4706	57103	273750	1303925	22.83
50	164	0.8732	0.1268	6645	52397	245372	1030175	19.66
55	131	0.8962	0.1018	4656	45752	217120	784803	17.15
60	114	0.8485	0.1515	6224	41096	189920	567683	13.81
65	93	0.7488	0.2512	8760	34872	152460	377763	10.83
70	56	0.7716	0.2282	5959	26112	115662	225303	8.63
75	34	0.0000	0.0000	0	20153	109641	109641	5.44

Table 3.56.4.27 TAITA (MALES)

IA(I)	NPOP(I)	P(I)	Q(I)	ISD(I)	L(I)	ISL(I)	IT(I)	EX(I)
0	231	0.8648	0.1352	13524	100000	466190	5710919	57.11
5	182	1.0046	-.0046	-394	86476	433365	5244729	60.65
10	154	1.0063	-.0063	-547	86870	435717	4811364	55.39
15	124	0.9858	0.0142	1237	87417	433992	4375647	50.05
20	99	0.9868	0.0132	1140	86180	428050	3941655	45.74
25	85	0.9749	0.0251	2134	85040	419865	3513605	41.32
30	79	0.9562	0.0438	3630	82906	405455	3093740	37.32
35	69	0.9540	0.0460	3645	79276	387267	2688285	33.91
40	63	0.9737	0.0263	1935	75631	373192	2301018	30.42
45	55	0.9462	0.0538	3961	73646	358327	1927826	26.18
50	46	0.8753	0.1247	8636	69685	326710	1569499	22.52
55	35	0.9753	0.0247	1506	60999	301225	1242789	20.37
60	28	0.8383	0.1617	9619	59491	273407	941564	15.83
65	20	0.8692	0.1308	8522	49872	233055	668157	13.40
70	14	0.7300	0.2200	9539	43350	192902	435102	10.04
75	10	0.0000	0.0000	0	33811	242200	242200	7.16

THE ABRIDGED LIFE TABLES FOR MALES AND FEMALES THAT HAVE BEEN CONSTRUCTED FROM THE INCOMPLETE DEATH REGISTRATION DATA

Table 3.5B.4.28 TURKANA (MALES)

IA(I)	NPOP(I)	P(I)	Q(I)	ISD(I)	L(I)	ISL(I)	IT(I)	EX(I)
0	37	0.6622	0.3378	33779	100000	415552	3286318	32.88
5	23	0.9931	0.0069	436	86221	329960	2872766	45.38
10	22	1.0061	-.0061	-396	85785	329810	2542806	38.67
15	20	0.8966	0.1034	8845	86181	313697	2212996	33.45
20	16	0.8839	0.1161	9867	77336	279372	1899299	32.02
25	14	0.8073	0.1927	13103	67469	232897	1619927	30.90
30	11	0.8874	0.1126	4786	54366	199725	1386030	32.67
35	9	0.8741	0.1259	5977	49580	177867	1183305	31.50
40	7	0.9577	0.0423	1420	43603	154375	1005438	29.94
45	6	1.0590	-.0590	-1696	42183	165570	851063	26.15
50	6	0.9610	0.0390	948	34063	136695	685493	19.83
55	5	1.1724	-.1724	-5700	33415	131475	506798	15.17
60	5	0.2399	0.7101	27616	39175	126330	325323	8.30
65	1	1.4622	-.4622	-5249	11357	69907	198993	17.52
70	1	1.0468	-.3468	*-14061	16506	113162	129086	7.77
75	1	0.0000	0.0000	0	30667	10904	10904	0.36

Table 3.5B.4.29 U GISHU (MALES)

IA(I)	NPOP(I)	P(I)	Q(I)	ISD(I)	L(I)	ISL(I)	IT(I)	EX(I)
0	2196	0.9106	0.0894	8936	100000	477660	6536736	65.37
5	1620	0.9928	0.0072	656	91064	453675	6059076	66.54
10	1303	0.9950	0.0050	446	90408	450910	5605401	62.00
15	996	0.9940	0.0060	540	89958	446440	5154491	57.30
20	883	0.9839	0.0161	1441	89418	443437	4708051	52.63
25	646	0.9933	0.0067	586	87977	436420	4262564	48.45
30	520	0.9745	0.0255	2231	87391	431377	3826144	43.76
35	409	0.9702	0.0298	2535	85160	419435	3392767	39.84
40	348	0.9613	0.0387	1542	82622	409255	2973332	35.99
45	281	0.9764	0.0236	1911	81080	400822	2564057	31.62
50	249	0.9789	0.0211	1671	79169	391667	2163435	27.33
55	198	0.9653	0.0347	2656	77498	380770	1771768	22.86
60	159	0.9492	0.0508	3797	74843	364557	1390998	18.59
65	138	0.9864	0.0136	964	71013	352655	1026441	14.45
70	110	0.9522	0.0478	3347	70049	341877	673786	9.62
75	87	0.0000	0.0000	0	66702	331909	331909	4.98

Table 3.5B.4.30 SIAYA (MALES)

IA(I)	NPOP(I)	P(I)	Q(I)	ISD(I)	L(I)	ISL(I)	IT(I)	EX(I)
0	7374	0.8170	0.1830	18299	100000	454252	5587533	55.88
5	5619	0.9883	0.0117	1116	81701	405715	5133281	62.83
10	5084	0.9880	0.0120	964	80585	400515	4727566	58.67
15	4341	0.9934	0.0066	524	79621	396795	4327051	54.35
20	3651	0.9927	0.0073	573	79097	394052	3930256	49.69
25	3323	0.9898	0.0102	803	78524	390612	3536204	45.03
30	2833	0.9913	0.0087	675	77721	386917	3145592	40.47
35	2469	0.9828	0.0172	1324	77046	381920	2758675	35.81
40	1532	0.9800	0.0200	1510	75722	374835	2376755	31.39
45	1372	0.9548	0.0452	3354	74212	362675	2001920	26.98
50	1182	0.9503	0.0497	3520	70858	345490	1639245	23.13
55	1002	0.9143	0.0857	5769	67338	322267	1293755	19.21
60	873	0.9004	0.0996	6131	61569	292517	971488	15.78
65	761	0.8268	0.1732	9603	55438	259182	678971	12.25
70	502	0.7443	0.2557	11720	45835	199875	425789	9.29
75	286	0.0000	0.0000	0	34115	225914	225914	6.62

THE ABRIDGED LIFE TABLES FOR MALES AND FEMALES THAT HAVE BEEN CONSTRUCTED FROM THE INCOMPLETE DEATH REGISTRATION DATA

58.4.31 KIAMBU (MALES)

I(I)	NPOP(I)	P(I)	Q(I)	ISD(I)	L(I)	ISL(I)	IT(I)	EX(I)
0	9624	0.9232	0.0768	7684	100000	480790	6863275	68.63
5	8035	0.9952	0.0048	446	92316	460465	6382438	69.14
10	6789	0.9960	0.0040	364	91870	458440	5922023	64.46
15	5073	0.9936	0.0064	581	91506	456077	5463533	59.71
20	3876	0.9943	0.0057	517	90925	453332	5007506	55.07
25	3023	0.9826	0.0174	1571	90408	448112	4554174	50.37
30	2300	0.9807	0.0193	1716	88837	439895	4106062	46.22
35	1716	0.9857	0.0143	1247	87121	432487	3666167	42.08
40	1429	0.9707	0.0293	2518	85874	423075	3233680	37.66
45	1111	0.9691	0.0309	2576	83356	410340	2810605	33.72
50	953	0.9629	0.0371	2992	80780	396420	2400265	29.71
55	801	0.9601	0.0399	3101	77788	381187	2003845	25.76
60	746	0.9539	0.0461	3440	74687	364835	1622658	21.73
65	695	0.9476	0.0524	3733	71247	346902	1257823	17.65
70	622	0.8786	0.1214	6194	67514	317085	910921	13.49
75	385	0.0000	0.0000	0	59320	593836	593836	10.01

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CHAPTER FOUR

4. LIFE TABLE CONSTRUCTION FROM TWO SUCCESSIVE CENSUSES' DATA ONLY

4.1 Introduction

In order to estimate the level of adult mortality in a population, some assumptions should be made about the fertility trends and the mortality trends.

Preston and Bennett[1] (1983) proposed a different method to estimate adult mortality during the inter-censal period from the age distribution produced by two consecutive censuses. To estimate the level of adult mortality, the Age Specific Growth Rates of a population are used to transform the observed population age structure into the equivalent of a stationary population (life table) function.

In the study that will follow, a computer program will be designed to draw the life tables at the national and the district levels in Kenya using the Preston and Bennett (1983) technique. Then, the life tables will be drawn. Later on, a computer program will be designed to estimate the total population by age groups at the national level up to the year 2000. Then, the estimates of the populations will be presented.

4.2 Procedure for Constructing Life Tables from Two Successive Censuses' Data Only.

i) The population from the 1969 and the 1979 censuses are adjusted to include the Age Not stated.

ii) Calculate the Age Specific Growth Rates from the two consecutive censuses using the formula:

$$5^{r}a = \frac{1}{t_2 - t_1} \ln \frac{[5^{N}a(t_2)]}{[5^{N}a(t_1)]} \qquad .....(4.2.1)$$

in the case being considered, t_1=1969, t_2= 1979.

and $5^{r}a$ denotes the intercensal Age Specific Growth Rate from age group a to a+4;

$5^{N}a(t_2)$ and $5^{N}a(t_1)$ denote the populations in the age group a to a+4 in the years t_2 and t_1 respectively.

iii) Compute the mean number of persons within the period of the two censuses in the age group y to y+4.

$$5^{N}y = \frac{5^{N}y(t_1) + 5^{N}y(t_2)}{2} \qquad ....(4.2.2)$$

iv) Estimate the inflation factors, R(y).

$$R(y) = 2.5_5{}^{r}y + 5.0 \sum_{y=0}^{x-5} 5^{r}y \qquad \ldots.(4.2.3)$$

for y=0,10,..., A-5, where A is 75 years in our case.

$R(0) = 2.5_5{}^{r}0$, and $R(5) = 2.5_5{}^{r}5$.

for x= A (75 years)

$$R(A) = 2.5^{r}a + 5.0$$

or

$$R(A) = \rho(A) + 5.0 \sum_{y=5}^{A} 5^{r}y$$

where:

$$\rho(A) = a(A) + b(A)r(10+) + C(A) \ln\frac{[N(45+)]}{[N(10+)]} \qquad \ldots\ldots(4.2.4)$$

r(10+) is the growth rate of the population over age 10.

$$(r(10+) = \frac{1}{t} \ln\frac{[N(10+)(t_2)]}{[N(10+)(t_1)]}$$

N(10+) and N(45+) are the mid-period populations aged 10 and over, and 45 and more, respectively.

Since the truncation age is 75, then,

a(A)=0.053, b(A)= 6.40, C(A)=0.063.

Therefore $\rho(75) = 0.053 + 6.40r(10+) + 0.063 \ln\frac{[N(45+)]}{[N(10+)]}$

v) Reduce the age distribution into a stationary form. Calculate ${}_nL_y$ values (hypothetical or pseudo)

a) $${}_nL_y = 5N_y \cdot e^{R(y)} \qquad \ldots\ldots(4.2.5)$$

b) $$T_y = \sum_{y}^{\infty} 5L_y \qquad \ldots\ldots(4.2.6)$$

c) $$l_y = \frac{5L_y + 5L_{y-5}}{10} \qquad \ldots\ldots(4.2.7)$$

d) $$e_y = \frac{T_y}{l_y} \qquad \ldots\ldots(4.2.8)$$

4.3 Computer Program for Constructing Life Tables from Two Successive Censuses' Data only.

Variables Used:

(i) IA(I) is the age group in years (a)

(ii) R(I) is the Age Specific Growth Rate (${}_5r_a$)

(iii) IGP(I) and LGP(I) are the total populations in the age group IA(I) in 1969 and 1979 respectively.

(iv) IPX(I) is the mean of the populations IGP(I) and LGP(I) in age group IA(I).

(v) $$SR(I) = 5\sum_{a=5}^{y-5} {}_5r_a$$

(vi) $YSR(I) = 2.5_5r_y$

(vii) $RY(I) = [5X\sum_{a=5}^{y-5} 5^ra + 2.5_5r_y]$

(viii) $ISL(I) = 5^Ly$

(ix) $ITY(I) = T_y$

(x) $LY(I) = l_y$

(xi) $EY(I) = e_y$

The rest of the computer program that the author has written is in Appendix A6.

4.4 Analysis of the Life Tables that have been obtained from the two Successive Censuses.

The life expectancy estimates for the Kenya and its various districts that have been constructed for the Preston-Census based method are displayed in tables 4.4A.1 to 4.4A.20 and 4.4B.1 to 4.4B.26 .

The inconsistency of the life expectancy estimates can be attributed to:

(i) errors in the estimated growth rates - this error comes about as a result of the differential degrees of coverage achieved by the two successive censuses.

(ii) the existence of net migration.

(iii) Age misreporting in the Census data.

Owing to the reasons that are outlined above, the life expectancy estimates for areas that receive migrants like Nairobi, and Mombasa cannot be easily calculated using the Preston Census technique.

THE ABRIDGED LIFE TABLES FOR MALES AND FEMALES THAT HAVE BEEN CONSTRUCTED USING THE 1969 AND 1979) CENSUSES DATA ONLY

AMFL DATE 22/07/85 TIME 11/50/12 LISTING FOR:- 0000

SUBFILE FEM4 IN CARD MODE

4.4A. 1 KENYA (FEMALES)

IA(I)	IPX(I)	R(I)	SR(I)	YSR(I)	RY(I)	ISL(I)	ITY(I)	LY(I)	EY(I)
0	1235158	0.0308	0.0000	0.00000	-.06883	1153066.	14711620.		
5	1070171	0.0334	0.0000	0.08638	0.08638	1163222.	13558613.	231622	58.54
10	844743	0.0435	0.1668	0.10877	0.27553	1112714.	12395591.	227593	54.46
15	717082	0.0490	0.3643	0.12247	0.50677	1190305.	11282877.	230301	48.99
20	568665	0.0423	0.6292	0.10580	0.73505	1166000.	10092571.	237630	42.47
25	476739	0.0276	0.8409	0.06912	0.90998	1164344.	8906571.	237034	37.56
30	356337	0.0323	0.9791	0.08080	1.05990	1026418.	7722228.	221276	34.90
35	295385	0.0203	1.1407	0.05193	1.19263	975507.	6693810.	200192	33.44
40	238065	0.0306	1.2446	0.07647	1.32102	892092.	5720303.	186559	30.66
45	193108	0.0305	1.3975	0.07632	1.47383	843091.	4828212.	173518	27.83
50	165219	0.0319	1.5502	0.07980	1.62995	843215.	3985121.	168630	23.63
55	118506	0.0276	1.7096	0.06908	1.77883	701898.	3141906.	154511	20.33
60	102112	0.0149	1.8479	0.03730	1.88520	672680.	2440008.	137457	17.75
65	73339	0.0275	1.9225	0.06883	1.99133	537225.	1767327.	120990	14.61
70	54319	0.0309	2.0602	0.07730	2.13745	460505.	1230102.	99773	12.33
75	81192	0.0137	2.2148	0.03430	2.24905	769597.	769597.	123010	6.26

4.4A. 2 BARINGO (FEMALES)

IA(I)	IPX(I)	R(I)	SR(I)	YSR(I)	RY(I)	ISL(I)	ITY(I)	LY(I)	EY(I)
0	16697	0.0246	0.0000	0.00000	-.03235	16165.	146503.		
5	14910	0.0246	0.0000	0.06140	0.06140	15854.	132338.	3201	41.34
10	11776	0.0304	0.1223	0.07512	0.19892	14366.	116484.	3022	38.55
15	9752	0.0393	0.2751	0.09830	0.37335	14166.	102116.	2853	35.79
20	7835	0.0252	0.4716	0.06312	0.53478	13375.	87950.	2754	31.94
25	6968	0.0127	0.5979	0.03183	0.62972	13080.	74575.	2645	28.19
30	4934	0.0209	0.6616	0.05228	0.71383	10074.	61496.	2315	26.56
35	4066	0.0109	0.7661	0.02715	0.79325	8968.	51421.	1906	26.96
40	3269	0.0162	0.8204	0.04048	0.86088	7732.	42433.	1672	25.38
45	2902	0.0134	0.9014	0.03357	0.93493	7391.	34701.	1512	22.95
50	2242	0.0164	0.9685	0.04102	1.00953	6153.	27310.	1354	20.17
55	1686	0.0234	1.0506	0.05855	1.10910	5111.	21157.	1126	13.79
60	1431	0.0109	1.1677	0.02713	1.19478	4726.	16046.	983	16.32
65	1037	0.0129	1.2219	0.03235	1.25425	3635.	11320.	836	13.54
70	748	0.0090	1.2866	0.02242	1.30903	2770.	7685.	640	12.01
75	1272	0.0081	1.3315	0.02028	1.35173	4915.	4915.	768	6.40

4.4A. 3 BUNGOMA (FEMALES)

IA(I)	IPX(I)	R(I)	SR(I)	YSR(I)	RY(I)	ISL(I)	ITY(I)	LY(I)	EY(I)
0	44312	0.0393	0.0000	0.00000	-.05075	42119.	496290.		
5	36398	0.0353	0.0000	0.08835	0.08835	39760.	454171.	8187	55.47
10	30098	0.0365	0.1767	0.09125	0.26795	39347.	414411.	7910	52.39
15	24548	0.0514	0.3592	0.12862	0.48783	39963.	375064.	7932	47.26
20	18453	0.0493	0.6164	0.12330	0.73975	38657.	335081.	7864	42.61
25	13595	0.0387	0.3630	0.09665	0.95970	35495.	296415.	7416	39.97
30	10584	0.0294	1.0563	0.07342	1.12977	32757.	260919.	6825	38.23
35	8684	0.0208	1.2032	0.05193	1.25512	30466.	228162.	6322	36.09
40	6870	0.0378	1.3070	0.09447	1.40152	27902.	197696.	5836	33.38
45	5691	0.0413	1.4960	0.10315	1.59915	26164.	169795.	5606	30.29
50	4529	0.0277	1.7023	0.06917	1.77147	26626.	141631.	5479	25.85
55	3469	0.0382	1.8406	0.09555	1.93620	24048.	115002.	5067	22.70
60	3122	0.0301	2.0317	0.07530	2.10705	25675.	90954.	4972	18.29
65	2185	0.0203	2.1823	0.05075	2.23310	20383.	65279.	4605	14.18

THE ABRIDGED LIFE TABLES FOR MALES AND FEMALES THAT HAVE BEEN CONSTRUCTED USING THE 1969 AND 1979 CENSUSES DATA ONLY

4.4A. 4 KAKAMEGA(FEMALES)

IA(I)	IPX(I)	R(I)	SR(I)	YSR(I)	RY(I)	ISL(I)	ITY(I)	LY(I)	EY(I)
0	91169	0.0225	0.0000	0.00000	-.10910	81746.	851870.		
5	78108	0.0294	0.0000	0.07345	0.07345	84061.	770124.	16580	46.45
10	66254	0.0292	0.1469	0.07293	0.21983	82543.	686063.	16660	41.18
15	52645	0.0395	0.2926	0.09868	0.39143	77867.	603520.	16040	37.63
20	36373	0.0462	0.4901	0.11542	0.60552	66643.	525654.	14450	36.36
25	28959	0.0250	0.7210	0.06243	0.78338	63387.	459011.	13002	35.30
30	22577	0.0189	0.8458	0.04718	0.89293	55142.	395624.	11852	33.38
35	20984	0.0113	0.9402	0.02817	0.96833	55262.	340482.	11040	30.84
40	16587	0.0318	0.9965	0.07938	1.07587	48642.	285220.	10390	27.45
45	14534	0.0401	1.1552	0.10015	1.25540	51003.	236578.	9964	23.74
50	0	0.0135	1.3555	0.03325	1.38880	0.	185575.	5100	36.39
55	9538	0.0214	1.4220	0.05353	1.47557	41715.	185575.	4171	44.49
60	8733	0.0036	1.5291	0.00907	1.53817	40662.	143860.	8237	17.47
65	6168	0.0436	1.5473	0.10910	1.65635	32321.	103198.	7298	14.14
70	4669	0.0779	1.7655	0.19485	1.96030	33157.	70877.	6547	10.83
75	4245	0.0117	2.1552	0.02930	2.18445	37720.	37720.	7087	5.32

4.4A. 5 KERICHO (FEMALES)

IA(I)	IPX(I)	R(I)	SR(I)	YSR(I)	RY(I)	ISL(I)	ITY(I)	LY(I)	EY(I)
0	55495	0.0298	0.0000	0.00000	-.05928	52301.	493493.		
5	48075	0.0227	0.0000	0.05685	0.05685	50387.	441192.	10318	42.76
10	37142	0.0251	0.1137	0.06265	0.17635	44305.	390305.	9519	41.00
15	32198	0.0430	0.2390	0.10745	0.34645	45529.	346000.	8983	38.52
20	24045	0.0383	0.4539	0.09570	0.54960	41659.	300470.	8718	34.47
25	18164	0.0263	0.6453	0.06582	0.71113	36987.	258811.	7864	32.91
30	12598	0.0358	0.7770	0.08955	0.86650	29965.	221824.	6695	33.13
35	9989	0.0204	0.9561	0.05112	1.00716	27348.	191859.	5731	33.48
40	7872	0.0398	1.0583	0.09955	1.15785	25057.	164510.	5240	31.40
45	6470	0.0347	1.2574	0.08680	1.34420	24813.	139453.	4987	27.96
50	5217	0.0315	1.4310	0.07880	1.50980	23011.	114640.	4842	23.68
55	4085	0.0350	1.5886	0.08763	1.67623	21836.	91629.	4544	20.03
60	3236	0.0104	1.7639	0.02608	1.78993	19380.	69193.	4121	16.79
65	2310	0.0237	1.8160	0.05928	1.87528	15067.	49812.	3444	14.46
70	1722	0.0062	1.9346	0.01540	1.94995	12103.	34745.	2717	12.79
75	3127	0.0058	1.9653	0.01440	1.97975	22642.	22642.	3474	6.52

4.4A. 6 KIAMBU (FEMALES)

IA(I)	IPX(I)	R(I)	SR(I)	YSR(I)	RY(I)	ISL(I)	ITY(I)	LY(I)	EY(I)
0	57001	0.0191	0.0000	0.00000	-.06805	53251.	708282.		
5	48822	0.0342	0.0000	0.08560	0.08560	53165.	655031.	10643	61.55
10	37929	0.0617	0.1712	0.15423	0.32548	52520.	601845.	10570	56.94
15	31114	0.0552	0.4793	0.13812	0.61788	57716.	549326.	11023	49.83
20	19497	0.0393	0.7560	0.09820	0.85420	45808.	491610.	10352	47.49
25	19551	0.0334	0.9524	0.08343	1.03582	55064.	445802.	10089	44.19
30	14524	0.0372	1.1193	0.09298	1.21223	43815.	390718.	10389	37.61
35	12202	0.0339	1.3052	0.08463	1.38988	48963.	341904.	9779	34.96
40	9462	0.0320	1.4745	0.07995	1.55450	44781.	292920.	9376	31.24
45	7446	0.0201	1.6344	0.05030	1.68475	40142.	248139.	8492	29.22
50	6441	0.0169	1.7351	0.04225	1.77730	38091.	207997.	7823	26.59
55	5567	0.0050	1.8195	0.01257	1.83213	34778.	169906.	7286	23.32
60	4901	0.0071	1.8447	0.01765	1.86235	31557.	135128.	6633	20.37
65	3948	0.0272	1.8800	0.06805	1.94805	27695.	103571.	5925	17.48
70	3016	0.0479	2.0161	0.11977	2.13588	25529.	75876.	5322	14.26
75	4897	0.0299	2.2557	0.07467	2.33033	50347.	50347.	7587	6.64

THE ABRIDGED LIFE TABLES FOR MALES AND FEMALES THAT HAVE BEEN CONSTRUCTED USING THE 1969 AND 1979 CENSUSES DATA ONLY

4.4A. 7 KILIFI (FEMALES)

IA(I)	IPX(I)	R(I)	SR(I)	YSR(I)	RY(I)	ISL(I)	ITY(I)	LY(I)	EY(I)
0	34110	0.0406	0.0000	0.00000	-.04638	32499.	423226.		
5	28960	0.0354	0.0000	0.08850	0.03850	31640.	390726.	6413	60.93
10	19560	0.0390	0.1773	0.09755	0.27455	25740.	359087.	5737	62.59
15	18767	0.0380	0.3721	0.09503	0.46713	29941.	333347.	5568	59.87
20	19004	0.0504	0.5621	0.12597	0.68613	37818.	303406.	6775	44.76
25	16652	0.0205	0.6141	0.05118	0.66527	39559.	265588.	7757	34.33
30	12849	0.0321	0.9164	0.08052	0.99677	34815.	226029.	7437	30.39
35	10801	0.0112	1.0771	0.02795	1.10507	32613.	191214.	6742	28.36
40	7855	0.0351	1.1330	0.08777	1.22082	26628.	158601.	5924	26.77
45	6602	0.0431	1.3086	0.10765	1.41625	27211.	131973.	5383	24.52
50	5277	0.0221	1.5239	0.05523	1.57912	25597.	104762.	5280	19.84
55	3745	0.0159	1.6343	0.03972	1.67407	19975.	79164.	4557	17.37
60	3148	0.0127	1.7136	0.03165	1.74545	18033.	59189.	3800	15.58
65	2353	0.0194	1.7771	0.04338	1.82547	14602.	41156.	3263	12.61
70	1313	0.0261	1.8736	0.06532	1.93917	9129.	26554.	2373	11.19
75	2290	0.0099	2.0045	0.02483	2.02932	17424.	17424.	2655	6.56

4.4A. 8 KIRINYAG(FEMALES)

IA(I)	IPX(I)	R(I)	SR(I)	YSR(I)	RY(I)	ISL(I)	ITY(I)	LY(I)	EY(I)
0	25265	0.0101	0.0000	0.00000	-.01302	24938.	283133.		
5	21510	0.0277	0.0000	0.06917	0.05917	23051.	258195.	4798	53.31
10	16764	0.0607	0.1383	0.15180	0.29015	22407.	235144.	4545	51.74
15	13239	0.0630	0.4420	0.15742	0.59937	24108.	212737.	4651	45.74
20	9427	0.0280	0.7563	0.06990	0.82670	21548.	188629.	4565	41.32
25	8136	0.0227	0.8966	0.05665	0.95325	21106.	167081.	4265	39.17
30	6489	0.0291	1.0099	0.07277	1.08267	19159.	145975.	4026	36.26
35	5398	0.0079	1.1554	0.01965	1.17510	17481.	126816.	3664	34.61
40	4997	0.0168	1.1947	0.04187	1.23662	17210.	109335.	3469	31.52
45	3683	0.0148	1.2785	0.03700	1.31550	13725.	92125.	3093	29.79
50	3753	0.0392	1.3525	0.09805	1.45055	16008.	78400.	2973	26.37
55	2556	0.0251	1.5466	0.06273	1.61133	12804.	62392.	2881	21.66
60	2351	0.0023	1.6741	0.00575	1.67980	12612.	49588.	2541	19.52
65	1902	0.0052	1.6856	0.01302	1.69358	10397.	36976.	2300	16.08
70	1492	0.0139	1.7116	0.03475	1.74635	8555.	26579.	1895	14.03
75	3018	0.0024	1.7811	0.00605	1.78715	18025.	18025.	2657	6.78

4.4A. 9 KISII (FEMALES)

IA(I)	IPX(I)	R(I)	SR(I)	YSR(I)	RY(I)	ISL(I)	ITY(I)	LY(I)	EY(I)
0	79969	0.0256	0.0000	0.00000	-.00080	79905.	667276.		
5	69349	0.0204	0.0000	0.05087	0.05087	72968.	587370.	15287	38.42
10	57977	0.0257	0.1017	0.06415	0.16590	68439.	514402.	14140	36.38
15	47743	0.0530	0.2301	0.13250	0.36255	68606.	445963.	13704	32.54
20	32768	0.0468	0.4951	0.11708	0.61212	60436.	377357.	12904	29.24
25	25034	0.0201	0.7292	0.05035	0.77955	54566.	316921.	11502	27.55
30	17654	0.0189	0.8299	0.04715	0.87705	42437.	262335.	9702	27.04
35	15387	0.0044	0.9242	0.01105	0.93525	39204.	219898.	8164	26.94
40	11246	0.0372	0.9463	0.09290	1.03920	31792.	180694.	7099	25.45
45	9484	0.0343	1.1321	0.08563	1.21773	32051.	148902.	6334	23.32
50	6819	0.0253	1.3034	0.06315	1.36650	26741.	116851.	5879	19.88
55	5059	0.0300	1.4297	0.07507	1.50475	22760.	90110.	4952	18.20
60	4259	0.0144	1.5798	0.03598	1.61576	21430.	67330.	4421	15.23
65	3158	0.0003	1.6518	0.00080	1.65255	16486.	45899.	3791	12.11
70	2044	0.0160	1.6534	0.04010	1.69345	11116.	29414.	2760	10.66
75	3149	0.0105	1.7336	0.02615	1.75970	18298.	18298.	2941	6.22

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4.4A.10 KITUI (FEMALES)

IA(I)	IPX(I)	R(I)	SR(I)	YSR(I)	RY(I)	ISL(I)	ITY(I)	LY(I)	EY(I)
0	37595	0.0234	0.0000	0.00000	-.09632	34143.	467322.		
5	34234	0.0389	0.0000	0.09715	0.09715	37727.	433180.	7186	60.26
10	27133	0.0550	0.1943	0.13755	0.33185	37811.	395453.	7553	52.36
15	20985	0.0477	0.4694	0.11915	0.58355	37802.	357642.	7561	47.30
20	16411	0.0192	0.7077	0.04805	0.75575	34942.	319840.	7274	43.97
25	14794	0.0154	0.8033	0.03842	0.84223	34345.	284898.	6928	41.12
30	13265	0.0298	0.8806	0.07457	0.95522	34479.	250553.	6882	36.41
35	10011	0.0156	1.0298	0.03893	1.06872	29149.	216074.	6362	33.96
40	9648	0.0097	1.1076	0.02418	1.13182	29921.	186925.	5907	31.64
45	8025	0.0277	1.1560	0.06915	1.22515	20513.	157004.	5043	31.13
50	7784	0.0473	1.2943	0.11830	1.41260	31966.	136491.	5247	26.01
55	4276	0.0232	1.5309	0.05310	1.58900	20947.	104525.	5291	19.76
60	4468	0.0033	1.6471	0.00328	1.65536	23390.	83577.	4433	18.85
65	2533	0.0385	1.6837	0.09632	1.75995	14723.	60187.	3811	15.79
70	2854	0.0376	1.8565	0.09405	1.95035	20067.	45465.	3478	13.07
75	2735	0.0737	2.0444	0.18413	2.22852	25398.	25398.	4546	5.59

4.4A.11 KWALE (FEMALES)

IA(I)	IPX(I)	R(I)	SR(I)	YSR(I)	RY(I)	ISL(I)	ITY(I)	LY(I)	EY(I)
0	22397	0.0386	0.0000	0.00000	-.05733	21149.	276715.		
5	20054	0.0347	0.0000	0.03668	0.03668	21870.	255565.	4301	59.42
10	13159	0.0376	0.1734	0.09390	0.26725	17190.	233696.	3906	59.83
15	12999	0.0371	0.3612	0.09275	0.45590	20466.	216505.	3765	57.50
20	11026	0.0505	0.5466	0.12632	0.67297	22783.	196039.	4325	45.33
25	10968	0.0218	0.7993	0.05438	0.85367	25303.	173251.	4859	35.66
30	7839	0.0379	0.9080	0.09480	1.00265	21369.	147449.	4717	31.26
35	6926	0.0149	1.0976	0.03728	1.13492	21546.	126079.	4291	29.38
40	4766	0.0451	1.1722	0.11278	1.28498	17227.	104533.	3877	26.96
45	4170	0.0254	1.3976	0.06352	1.46128	17979.	87306.	3520	24.80
50	2850	0.0384	1.5246	0.09608	1.62067	14414.	69327.	3239	21.40
55	2158	0.0205	1.7170	0.05115	1.76810	12645.	54913.	2705	20.30
60	1778	0.0297	1.8192	0.07438	1.89362	11312.	42268.	2445	17.29
65	1284	0.0229	1.9680	0.05733	2.02532	9751.	30456.	2154	14.14
70	859	0.0319	2.0826	0.07983	2.16247	7467.	20725.	1719	12.06
75	1366	0.0122	2.2423	0.03042	2.27273	13258.	13258.	2072	6.40

4.4A.12 MACHAKOS(FEMALES)

IA(I)	IPX(I)	R(I)	SR(I)	YSR(I)	RY(I)	ISL(I)	ITY(I)	LY(I)	EY(I)
0	82407	0.0287	0.0000	0.00000	-.09707	74783.	1117190.		
5	74611	0.0389	0.0000	0.09730	0.09730	82256.	1042406.	15701	66.39
10	59830	0.0444	0.1946	0.11107	0.30567	81222.	960171.	16345	58.74
15	47355	0.0488	0.4163	0.12205	0.53880	81164.	878949.	16238	54.13
20	34858	0.0523	0.6609	0.13075	0.79160	76929.	797785.	15809	50.46
25	31409	0.0289	0.9224	0.07225	0.99460	84919.	720856.	16184	44.54
30	22611	0.0351	1.0669	0.08785	1.15470	72381.	635937.	15729	40.43
35	18718	0.0315	1.2426	0.07880	1.32135	70164.	563556.	14254	39.54
40	17301	0.0081	1.4002	0.02023	1.42036	71603.	493392.	14176	34.80
45	12750	0.0201	1.4406	0.05023	1.49088	56622.	421789.	12822	32.90
50	13777	0.0672	1.5412	0.16795	1.75910	76104.	365167.	13272	27.51
55	9454	0.0229	1.8771	0.05730	1.93435	65417.	289063.	14152	20.43
60	6110	0.0290	1.9917	0.07256	2.06423	48142.	223645.	11355	19.70
65	5830	0.0368	2.1363	0.09707	2.23388	54429.	175503.	10257	17.11
70	3650	0.0025	2.3310	0.00615	2.33710	37762.	121075.	9221	13.13
75	7626	0.0190	2.3433	0.04755	2.39080	83293.	83293.	12107	6.88

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4.4A.13 MERU (FEMALES)

IA(I)	IPX(I)	R(I)	SR(I)	YSR(I)	RY(I)	ISL(I)	ITY(I)	LY(I)	EY(I)
0	66144	0.0352	0.0000	0.00000	-.03895	65542.	835079.		
5	56568	0.0318	0.0000	0.07950	0.07950	63414.	769536.	12895	59.68
10	44867	0.0401	0.1590	0.10015	0.25915	58140.	706122.	12155	58.09
15	39933	0.0446	0.3595	0.11140	0.47070	63957.	647982.	12207	53.08
20	30829	0.0389	0.5621	0.09723	0.67937	60815.	584045.	12475	46.82
25	26051	0.0295	0.7766	0.07386	0.85053	60962.	523230.	12179	42.90
30	19025	0.0380	0.9244	0.09495	1.01935	52726.	462248.	11370	40.66
35	15648	0.0213	1.1143	0.05335	1.16765	50299.	409522.	10302	39.75
40	13486	0.0657	1.2210	0.16438	1.38538	53894.	359223.	10419	34.48
45	10821	0.0254	1.5495	0.06340	1.61515	54306.	305328.	10820	28.22
50	9090	0.0309	1.6760	0.07722	1.75378	52507.	251022.	10681	23.50
55	6561	0.0268	1.8310	0.06700	1.89800	43779.	198515.	9628	20.62
60	5882	0.0113	1.9650	0.02813	1.99315	43165.	154737.	8694	17.80
65	4103	0.0156	2.0212	0.03895	2.06017	32606.	111572.	7583	14.71
70	3405	0.0021	2.0991	0.00535	2.10445	27930.	78903.	6059	13.02
75	5852	0.0219	2.1098	0.05472	2.16453	50974.	50974.	7890	6.46

4.4A.14 MOMBASA (FEMALES)

IA(I)	IPX(I)	R(I)	SR(I)	YSR(I)	RY(I)	ISL(I)	ITY(I)	LY(I)	EY(I)
0	21571	0.0390	0.0000	0.00000	-.06790	20155.	291048.		
5	17837	0.0350	0.0000	0.08758	0.08758	19470.	270893.	3962	68.37
10	12611	0.0453	0.1752	0.11535	0.28850	16328.	251423.	3629	69.26
15	15468	0.0397	0.4019	0.09918	0.50102	25529.	234595.	4235	55.39
20	10222	0.0459	0.6002	0.11467	0.71487	33157.	209066.	5868	35.63
25	13253	0.0345	0.8296	0.08635	0.91590	33120.	175910.	6627	26.54
30	8543	0.0351	1.0023	0.08777	1.09003	25410.	142790.	5852	24.40
35	6135	0.0254	1.1773	0.06358	1.24138	21229.	117380.	4663	25.17
40	4459	0.0325	1.3050	0.08125	1.38620	17834.	96151.	3906	24.62
45	3420	0.0391	1.4675	0.09773	1.56516	10360.	78316.	3419	22.91
50	2540	0.0428	1.6629	0.10705	1.76995	14911.	61957.	3127	19.81
55	1710	0.0428	1.8770	0.10705	1.98405	12435.	47046.	2734	17.21
60	1395	0.0185	2.0911	0.04620	2.13730	11825.	34610.	2426	14.27
65	867	0.0272	2.1835	0.06790	2.25140	8237.	22785.	2006	11.36
70	552	0.0277	2.3193	0.06927	2.38857	6016.	14548.	1425	10.21
75	704	0.0148	2.4578	0.03700	2.49485	8532.	8532.	1454	5.87

4.4A.15 NANDI (FEMALES)

IA(I)	IPX(I)	R(I)	SR(I)	YSR(I)	RY(I)	ISL(I)	ITY(I)	LY(I)	EY(I)
0	24617	0.0390	0.0000	0.00000	-.04810	23401.	303973.		
5	20557	0.0410	0.0000	0.10238	0.10238	22773.	280512.	4623	60.66
10	15707	0.0466	0.2048	0.11643	0.32118	21656.	257739.	4442	58.04
15	13399	0.0509	0.4376	0.12738	0.56493	23574.	236083.	4523	52.20
20	10154	0.0382	0.6923	0.09558	0.78792	22327.	212508.	4590	46.36
25	8568	0.0268	0.8835	0.06710	0.95060	22166.	190181.	4449	42.76
30	6212	0.0313	1.0177	0.07815	1.09585	18585.	168014.	4075	41.23
35	5283	0.0284	1.1740	0.07088	1.24483	18345.	149429.	3692	40.4
40	4086	0.0242	1.3157	0.06060	1.37635	16190.	131084.	3453	37.9
45	3630	0.0152	1.4369	0.03810	1.47505	15868.	114894.	3205	35.8
50	2820	0.0204	1.5131	0.05087	1.56402	13474.	99026.	2934	33.7
55	2417	0.0393	1.6149	0.09823	1.71312	13405.	85552.	2687	31.8
60	2017	0.0575	1.8113	0.14383	1.95517	14250.	72147.	2765	26.0
65	1716	0.0192	2.0990	0.04810	2.14710	14689.	57896.	2893	20.0
70	1505	0.0509	2.1952	0.12728	2.32247	15352.	43207.	3004	14.3
75	2355	0.0083	2.4497	0.02073	2.47043	27855.	27855.	4320	6.4

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4.4A.16 NYANDARU(FEMALES)

IA(I)	IPX(I)	R(I)	SR(I)	YSR(I)	RY(I)	ISL(I)	ITY(I)	LY(I)	EY(I)
0	22231	0.0115	0.0000	0.00000	-.07965	20529.	285585.		
5	18823	0.0294	0.0000	0.07362	0.07362	20201.	265056.	4079	64.98
10	14015	0.0719	0.1472	0.17967	0.32712	19436.	244795.	3969	61.66
15	9930	0.0609	0.5070	0.15223	0.65927	19199.	225356.	3863	58.34
20	7357	0.0047	0.8115	0.01175	0.82530	16759.	206158.	3595	57.35
25	6606	0.1090	0.8351	0.27250	1.10755	19996.	189398.	3675	51.54
30	5081	0.0278	1.3601	0.06958	1.44963	21653.	169403.	4164	40.68
35	4719	0.0463	1.5192	0.11570	1.63490	24203.	147750.	4585	32.22
40	3365	0.0250	1.7506	0.06243	1.81303	20624.	123546.	4482	27.56
45	2602	0.0259	1.8755	0.06473	1.94013	18110.	102922.	3873	26.57
50	2220	0.0263	2.0049	0.06570	2.07060	17604.	84812.	3571	23.75
55	1765	0.0100	2.1363	0.02510	2.16140	15326.	67209.	3292	20.42
60	1415	0.0044	2.1865	0.01095	2.19745	12758.	51883.	2806	18.49
65	1070	0.0319	2.2034	0.07965	2.28805	10546.	39145.	2328	16.81
70	863	0.0306	2.3077	0.07650	2.44420	9943.	28599.	2048	13.96
75	1392	0.0299	2.5207	0.07475	2.59545	18656.	18656.	2859	6.53

4.4A.17 NYERI (FEMALES)

IA(I)	IPX(I)	R(I)	SR(I)	YSR(I)	RY(I)	ISL(I)	ITY(I)	LY(I)	EY(I)
0	41681	0.0077	0.0000	0.00000	-.05556	39428.	488247.		
5	37746	0.0265	0.0000	0.06622	0.06622	40330.	448819.	7975	56.26
10	29921	0.0669	0.1324	0.16727	0.29972	40378.	408488.	8070	50.62
15	22009	0.0569	0.4670	0.14222	0.60923	40475.	368110.	8035	45.53
20	15339	0.0181	0.7514	0.04523	0.79667	34024.	327636.	7449	43.98
25	12947	0.0209	0.8419	0.05235	0.89425	31662.	293611.	6568	44.70
30	10610	0.0404	0.9466	0.10093	1.04753	30245.	261950.	6190	42.32
35	9132	0.0313	1.1485	0.07825	1.22670	31140.	231705.	6138	37.75
40	7687	0.0236	1.3050	0.05893	1.36386	30066.	200565.	6120	32.77
45	6381	0.0103	1.4228	0.02573	1.44852	27163.	170499.	5722	29.80
50	5992	0.0200	1.4742	0.04995	1.52420	27512.	143336.	5467	26.22
55	4771	0.0105	1.5742	0.02637	1.60053	23643.	115824.	5115	22.64
60	4488	0.0001	1.6269	0.00018	1.62707	22859.	92181.	4648	19.85
65	3632	0.0222	1.6273	0.05553	1.68283	19543.	69341.	4238	16.36
70	2841	0.0131	1.7384	0.03273	1.77118	16699.	49798.	3624	13.74
75	5162	0.0217	1.8040	0.05425	1.85820	33100.	33100.	4979	6.65

4.4A.18 TAITA (FEMALES)

IA(I)	IPX(I)	R(I)	SR(I)	YSR(I)	RY(I)	ISL(I)	ITY(I)	LY(I)	EY(I)
0	11862	0.0161	0.0000	0.00000	-.03192	10929.	133618.		
5	10958	0.0336	0.0000	0.08412	0.08412	11920.	122689.	2234	53.72
10	8982	0.0423	0.1682	0.10565	0.27390	11812.	110769.	2373	46.66
15	6948	0.0395	0.3795	0.09863	0.47818	11208.	98957.	2302	42.99
20	4817	0.0340	0.5768	0.08495	0.66175	9336.	87749.	2054	42.72
25	4442	0.0170	0.7467	0.04242	0.78912	9779.	78413.	1911	41.03
30	3508	0.0222	0.8315	0.05553	0.88707	8517.	68634.	1829	37.53
35	3170	0.0141	0.9426	0.03533	0.97792	8429.	60116.	1694	35.49
40	2534	0.0367	1.0132	0.09177	1.10502	7651.	51688.	1607	32.16
45	2242	0.0229	1.1963	0.05725	1.25405	7857.	44037.	1550	28.41
50	1810	0.0340	1.3113	0.08495	1.39625	7312.	36180.	1516	23.87
55	1508	0.0503	1.4812	0.12580	1.60700	7522.	28867.	1433	19.47
60	1067	0.0336	1.7323	0.08400	1.81680	6564.	21345.	1408	15.16
65	698	0.0328	1.9003	0.08192	1.98273	5069.	14781.	1163	12.71
70	504	0.0054	2.0646	0.01340	2.07805	4020.	9712.	939	10.68
75	686	0.0093	2.0914	0.02335	2.11460	5686.	5686.	971	5.86

THE ABRIDGED LIFE TABLES FOR MALES AND FEMALES THAT HAVE BEEN CONSTRUCTED USING THE 1969 AND 1979 CENSUSES DATA ONLY

4.4A.19 MURANGA (FEMALES)

IA(I)	IPX(I)	R(I)	SR(I)	YSR(I)	RY(I)	ISL(I)	ITY(I)	LY(I)	EY(I)
0	55785	0.0271	0.0000	0.00000	-.04122	55532.	710470.		
5	48251	0.0397	0.0000	0.09920	0.09920	53283.	656938.	10681	61.51
10	36968	0.0632	0.1984	0.15795	0.35635	52794.	603655.	10607	56.91
15	28154	0.0500	0.5143	0.12510	0.63940	53361.	550861.	10615	51.89
20	19607	0.0315	0.7645	0.07877	0.84328	45566.	497499.	9892	50.29
25	17430	0.0276	0.9221	0.06908	0.99113	46961.	451933.	9252	43.85
30	13967	0.0362	1.0602	0.09042	1.15063	44138.	404972.	9109	44.46
35	12476	0.0327	1.2411	0.08163	1.32268	40828.	360834.	9096	39.67
40	10355	0.0266	1.4043	0.06640	1.47070	45063.	314006.	9189	34.17
45	8482	0.0174	1.5371	0.04358	1.58068	41208.	268938.	8627	31.17
50	7911	0.0187	1.6243	0.04678	1.67103	42063.	227731.	8327	27.35
55	6476	0.0104	1.7173	0.02600	1.74380	37036.	185663.	7910	23.47
60	5901	0.0102	1.7698	0.02557	1.79538	35534.	148627.	7257	20.48
65	4918	0.0165	1.8210	0.04122	1.86218	31661.	113092.	6719	16.83
70	3638	0.0238	1.9034	0.05938	1.96276	25899.	81432.	5755	14.15
75	6715	0.0362	2.0222	0.09047	2.11263	55533.	55533.	8143	6.82

4.4A.20 ISIOLO (FEMALES)

IA(I)	IPX(I)	R(I)	SR(I)	YSR(I)	RY(I)	ISL(I)	ITY(I)	LY(I)	EY(I)
0	2876	0.0681	0.0000	0.00000	-.02855	2795.	41432.		
5	2695	0.0265	0.0000	0.06625	0.06625	2880.	38637.	567	68.14
10	2083	0.0095	0.1325	0.02377	0.15627	2435.	35757.	531	67.34
15	2105	0.0527	0.1800	0.13170	0.31175	2375.	33322.	531	62.75
20	1770	0.0587	0.4434	0.14685	0.59030	3194.	30447.	606	50.24
25	1361	0.0279	0.7371	0.06988	0.80702	3050.	27253.	624	43.67
30	1143	0.0283	0.8769	0.07070	0.94760	2948.	24203.	599	40.40
35	777	0.0298	1.0183	0.07455	1.09285	2316.	21254.	526	40.41
40	819	0.0436	1.1674	0.10890	1.27630	2935.	18937.	525	36.07
45	509	0.0205	1.3652	0.05125	1.43645	2141.	16002.	507	31.56
50	606	0.0530	1.4877	0.13255	1.62025	3063.	13861.	520	26.66
55	313	0.0448	1.7526	0.11208	1.86487	2020.	10798.	508	21.26
60	355	0.0054	1.9769	0.01340	1.99035	2596.	8778.	461	19.04
65	245	0.0114	2.0038	0.02855	2.03230	1870.	6180.	446	13.86
70	220	0.0596	2.0609	0.14890	2.20975	2005.	4310.	387	11.14
75	188	0.0591	2.3587	0.14773	2.50642	2305.	2305.	431	5.35

THE ABRIDGED LIFE TABLES FOR MALES AND FEMALES THAT HAVE BEEN CONSTRUCTED USING THE 1969 AND 1979 CENSUSES DATA ONLY

SUBFILE MAT2 IN CARD MODE

4.4B. 1 KENYA (MALES)

IA(I)	IPX(I)	R(I)	SR(I)	YSR(I)	RY(I)	ISL(I)	ITY(I)	LY(I)	EY(I)
0	1241483	0.0293	0.0000	0.00000	-.07350	1153507.	13890623.		
5	1083131	0.0310	0.0000	0.07750	0.07750	1170412.	12737116.	232391	54.81
10	883903	0.0388	0.1550	0.09690	0.25190	1137112.	11566704.	230752	50.13
15	708018	0.0424	0.3483	0.10598	0.45473	1115706.	10429591.	225282	46.30
20	535369	0.0407	0.5607	0.10165	0.66240	1058317.	9313883.	215402	43.24
25	432553	0.0388	0.7640	0.09710	0.86115	1023366.	8255567.	206168	40.14
30	343585	0.0369	0.9583	0.09217	1.05042	962263.	7252198.	200563	36.16
35	271481	0.0143	1.1426	0.03570	1.17830	882000.	6269935.	186426	33.63
40	227976	0.0301	1.2140	0.07522	1.28923	827554.	5387935.	170955	31.52
45	195937	0.0240	1.3645	0.06008	1.42453	814291.	4560381.	164184	27.78
50	157876	0.0325	1.4846	0.08113	1.56578	755655.	3746089.	156994	23.86
55	127868	0.0207	1.6470	0.05180	1.69675	699068.	2990434.	145472	20.56
60	105199	0.0052	1.7506	0.01300	1.76355	613637.	2291366.	131270	17.46
65	87362	0.0294	1.7766	0.07350	1.85005	555634.	1677729.	116927	14.35
70	57435	0.0319	1.9236	0.07965	2.00320	425751.	1122095.	98138	11.43
75	85528	0.0057	2.0829	0.01415	2.09700	696344.	696344.	112209	6.21

4.4B. 2 BARINGO (MALES)

IA(I)	IPX(I)	R(I)	SR(I)	YSR(I)	RY(I)	ISL(I)	ITY(I)	LY(I)	EY(I)
0	16964	0.0243	0.0000	0.00000	-.19583	13947.	148807.		
5	15039	0.0182	0.0000	0.04540	0.04540	15738.	134860.	2968	45.44
10	12791	0.0241	0.0908	0.06028	0.15108	14877.	119123.	3061	38.92
15	9940	0.0366	0.2114	0.09143	0.30276	13455.	104246.	2833	36.80
20	6906	0.0332	0.3942	0.08293	0.47713	11129.	90791.	2458	36.94
25	6025	0.0271	0.5601	0.06775	0.62780	11288.	79662.	2241	35.55
30	4599	0.0395	0.6956	0.09885	0.79440	10178.	68375.	2146	31.86
35	3688	0.0063	0.8933	0.01580	0.90905	9153.	58197.	1933	30.11
40	2970	0.0202	0.9249	0.05042	0.97528	7876.	49043.	1702	28.81
45	2964	0.0045	1.0257	0.01113	1.03683	8359.	41167.	1623	25.36
50	2270	0.0021	1.0460	0.00527	1.05323	6508.	32808.	1486	22.08
55	2042	0.0026	1.0585	0.00660	1.06510	5924.	26300.	1243	21.16
60	1512	0.0156	1.0717	0.03895	1.11065	4591.	20376.	1051	19.39
65	1214	0.0783	1.1496	0.19583	1.34543	4662.	15785.	925	17.06
70	836	0.0100	1.5413	0.02512	1.56638	4004.	11123.	866	12.84
75	1335	0.0330	1.5915	0.08240	1.67390	7119.	7119.	1112	6.40

4.4B. 3 KISUMU (MALES)

IA(I)	IPX(I)	R(I)	SR(I)	YSR(I)	RY(I)	ISL(I)	ITY(I)	LY(I)	EY(I)
0	38342	0.0236	0.0000	0.00000	-.11025	34339.	294943.		
5	33394	0.0136	0.0000	0.03410	0.03410	34552.	260603.	6889	37.83
10	29078	0.0139	0.0682	0.03472	0.10293	32230.	226051.	6678	33.85
15	24507	0.0157	0.1376	0.03920	0.17685	29248.	193821.	6147	31.53
20	19230	0.0136	0.2160	0.03395	0.25000	24692.	164573.	5393	30.52
25	15153	0.0189	0.2839	0.04720	0.33115	21102.	139881.	4579	30.55
30	12423	0.0227	0.3785	0.05672	0.43507	19195.	118779.	4029	29.46
35	10160	0.0109	0.4916	0.02713	0.51892	17071.	99585.	3626	27.46
40	8327	0.0146	0.5460	0.03658	0.58262	14911.	82514.	3198	25.80
45	7930	0.0055	0.6192	0.01373	0.63292	14933.	67602.	2984	22.65
50	6338	0.0134	0.6467	0.03343	0.68008	12511.	52669.	2744	19.19
55	5129	0.0067	0.7135	0.01682	0.73033	10647.	40158.	2315	17.35
60	4180	0.0104	0.7472	0.02610	0.77325	9057.	29511.	1970	14.98
65	3169	0.0441	0.7994	0.11025	0.90960	7870.	20454.	1692	12.09
70	1897	0.0386	1.0193	0.09648	1.11632	5793.	12584.	1366	9.21
75	1938	0.0165	1.2123	0.04125	1.25405	6792.	6792.	1258	5.40

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4.4B. 4 ELGEYO M(MALES)

IA(I)	IPX(I)	R(I)	SR(I)	YSR(I)	RY(I)	ISL(I)	ITY(I)	LY(I)	EY(I)
0	13106	0.0047	0.0000	0.00000	-.01560	12983.	94197.		
5	12624	0.0011	0.0000	0.00280	0.00280	12659.	81294.	2556	31.81
10	10895	0.0149	0.0056	0.03728	0.04283	11372.	68635.	2403	23.56
15	8736	0.0074	0.0602	0.01860	0.09675	9643.	57262.	2101	27.25
20	5900	0.0061	0.1174	0.01522	0.13257	6750.	47620.	1637	29.09
25	5270	0.0092	0.1473	0.02312	0.17093	6252.	40863.	1298	31.50
30	3716	0.0062	0.1941	0.02052	0.21457	4605.	34631.	1085	31.92
35	3142	0.0236	0.2351	0.05393	0.29402	4216.	30026.	882	34.04
40	2409	0.0043	0.3530	0.01070	0.36365	3466.	25810.	766	33.01
45	2616	0.0285	0.3744	0.07130	0.44565	4065.	22344.	755	29.59
50	1987	0.0045	0.5170	0.01120	0.52815	3370.	18259.	745	24.51
55	1870	0.0059	0.5394	0.01470	0.55405	3254.	14890.	662	22.49
60	1610	0.0218	0.5683	0.05450	0.62325	3003.	11635.	625	18.62
65	1297	0.0062	0.6773	0.01560	0.69335	2595.	8633.	559	15.44
70	949	0.0234	0.7090	0.05852	0.76746	2044.	6038.	463	13.04
75	1576	0.0415	0.8260	0.10383	0.92985	3994.	3994.	603	6.62

4.4B. 5 EMBU (MALES)

IA(I)	IPX(I)	R(I)	SR(I)	YSR(I)	RY(I)	ISL(I)	ITY(I)	LY(I)	EY(I)
0	22277	0.0284	0.0000	0.00000	-.10946	19967.	304244.		
5	19038	0.0356	0.0000	0.08907	0.08907	20312.	284277.	4077	69.73
10	14921	0.0549	0.1781	0.13730	0.31545	20455.	263466.	4126	63.85
15	11734	0.0579	0.4523	0.14480	0.59755	21328.	243011.	4178	58.16
20	7437	0.0477	0.7424	0.11920	0.86155	17602.	221682.	3893	56.94
25	6393	0.0546	0.9808	0.13645	1.11720	19539.	204080.	3714	54.95
30	4928	0.0381	1.2536	0.09525	1.34690	18966.	184541.	3852	47.91
35	3803	0.0258	1.4441	0.06445	1.50860	17191.	165553.	3617	45.77
40	3412	0.0395	1.5730	0.09887	1.67192	18180.	148362.	3535	41.97
45	2791	0.0430	1.7708	0.10743	1.87622	18258.	130202.	3641	35.76
50	2338	0.0397	1.9657	0.09922	2.06436	13806.	111943.	3706	30.21
55	1897	0.0268	2.1841	0.06707	2.25117	18019.	93138.	3682	25.30
60	1425	0.0129	2.3182	0.03233	2.35057	14951.	75118.	3296	22.79
65	1406	0.0438	2.3829	0.10948	2.49238	16998.	60168.	3194	18.84
70	1081	0.0093	2.6019	0.02315	2.62500	14923.	43169.	3192	13.52
75	1984	0.0031	2.6481	0.00770	2.65585	28246.	28246.	4316	6.54

4.4B. 6 MURANGA (MALES)

IA(I)	IPX(I)	R(I)	SR(I)	YSR(I)	RY(I)	ISL(I)	ITY(I)	LY(I)	EY(I)
0	56022	0.0280	0.0000	0.00000	-.02690	54535.	787090.		
5	49039	0.0397	0.0000	0.09937	0.09937	54165.	732555.	10869	67.40
10	38200	0.0581	0.1987	0.14525	0.34400	53384.	678392.	10804	62.79
15	27198	0.0531	0.4393	0.13285	0.62210	50665.	624508.	10454	59.74
20	15356	0.0334	0.7550	0.08363	0.83856	35519.	573843.	8618	66.59
25	12216	0.0472	0.9222	0.11800	1.04020	34569.	538323.	7008	76.82
30	10597	0.0628	1.1582	0.15697	1.31516	39478.	503755.	7404	68.04
35	8377	0.0432	1.4722	0.10797	1.58013	40675.	464277.	8015	57.93
40	7059	0.0494	1.6681	0.12363	1.81173	43208.	423602.	8388	50.50
45	6236	0.0353	1.9353	0.08817	2.02352	47175.	380393.	9038	42.09
50	5554	0.0322	2.1117	0.08040	2.19210	49750.	333218.	9690	34.39
55	5109	0.0222	2.2725	0.05553	2.32802	52406.	283468.	10213	27.76
60	4699	0.0055	2.3835	0.01383	2.39738	51662.	231062.	10406	22.21
65	4817	0.0108	2.4112	0.02690	2.43810	55101.	179419.	10682	16.80
70	3117	0.0274	2.4650	0.06860	2.53360	39270.	124259.	9443	13.16
75	6100	0.0128	2.6022	0.03202	2.63422	84988.	84988.	12425	6.84

THE ABRIDGED LIFE TABLES FOR MALES AND FEMALES THAT HAVE BEEN CONSTRUCTED USING THE 1969 AND 1979 CENSUSES DATA ONLY

4.4B. 7 ISIOLO (MALES)

IA(I)	IPX(I)	R(I)	SR(I)	YSR(I)	RY(I)	ISL(I)	ITY(I)	LY(I)	EY(I)
0	2968	0.0667	0.0000	0.00000	-.01300	2950.	35985.		
5	2758	0.0237	0.0000	0.05930	0.05930	2926.	33056.	585	56.51
10	2344	0.0122	0.1186	0.03055	0.14915	2721.	30129.	564	53.42
15	2123	0.0321	0.1797	0.08028	0.25997	2753.	27408.	547	50.11
20	1927	0.0521	0.3402	0.13016	0.47042	3084.	24655.	533	42.29
25	1398	0.0417	0.6006	0.10435	0.70495	2829.	21570.	591	36.50
30	1179	0.0144	0.8093	0.03610	0.84540	2746.	18741.	557	33.65
35	874	0.0105	0.8815	0.02635	0.90785	2167.	15995.	491	32.56
40	850	0.0276	0.9342	0.06900	1.00320	2318.	13829.	448	30.87
45	645	0.0415	1.0722	0.10380	1.17600	2091.	11511.	440	26.10
50	557	0.0356	1.2796	0.08890	1.36870	2189.	9420.	427	22.06
55	349	0.0413	1.4576	0.10315	1.56075	1662.	7231.	385	18.78
60	330	0.0299	1.6639	0.07480	1.73870	1378.	5569.	353	15.76
65	212	0.0052	1.8135	0.01300	1.82650	1317.	3691.	319	11.57
70	175	0.0358	1.8395	0.08952	1.92903	1204.	2374.	252	9.42
75	135	0.0563	2.0186	0.14063	2.15918	1170.	1170.	237	4.94

4.4B. 8 KAKAMEGA(MALES)

IA(I)	IPX(I)	R(I)	SR(I)	YSR(I)	RY(I)	ISL(I)	ITY(I)	LY(I)	EY(I)
0	90674	0.0214	0.0000	0.00000	-.10140	81930.	826209.		
5	77957	0.0272	0.0000	0.06797	0.06797	83440.	744278.	16537	45.01
10	68047	0.0251	0.1359	0.06270	0.19665	83001.	660833.	16644	39.70
15	49952	0.0344	0.2613	0.08592	0.34727	70692.	577837.	15369	37.60
20	26895	0.0397	0.4332	0.09918	0.53237	49207.	507145.	11989	42.30
25	20082	0.0445	0.6315	0.11123	0.74277	42208.	457938.	9141	50.10
30	16079	0.0332	0.8540	0.08300	0.93700	41039.	415730.	8324	49.94
35	13339	0.0062	1.0200	0.01550	1.03550	37569.	374691.	7860	47.67
40	12073	0.0216	1.0510	0.05412	1.10512	36456.	337122.	7402	45.54
45	10993	0.0243	1.1592	0.06073	1.21997	37234.	300666.	7369	40.80
50	9300	0.0259	1.2807	0.06465	1.34535	35708.	263432.	7294	36.12
55	14153	0.0136	1.4100	0.03390	1.44390	59969.	227724.	9567	23.80
60	8440	0.0233	1.4778	0.05835	1.53615	39216.	167755.	9918	16.91
65	6976	0.0406	1.5945	0.10140	1.69590	38050.	128538.	7724	16.64
70	5392	0.0691	1.7973	0.17263	1.96993	38601.	90508.	7669	11.80
75	6018	0.0044	2.1425	0.01098	2.15353	51846.	51846.	9050	5.73

4.4B. 9 KERICHO (MALES)

IA(I)	IPX(I)	R(I)	SR(I)	YSR(I)	RY(I)	ISL(I)	ITY(I)	LY(I)	EY(I)
0	55702	0.0312	0.0000	0.00000	-.06660	52009.	497033.		
5	48372	0.0209	0.0000	0.05213	0.05213	50900.	445024.	10296	43.22
10	37083	0.0259	0.1043	0.06485	0.16910	43915.	394063.	9487	41.54
15	31718	0.0393	0.2339	0.09813	0.33213	44213.	350148.	8812	39.74
20	25462	0.0320	0.4303	0.08005	0.51035	42416.	305936.	8662	35.32
25	20746	0.0272	0.5904	0.06805	0.65645	40077.	263519.	8249	31.95
30	15896	0.0307	0.7265	0.07670	0.80320	35491.	223442.	7556	29.57
35	11484	0.0028	0.8799	0.00693	0.88683	27878.	187952.	6336	29.66
40	9682	0.0410	0.8939	0.10262	0.99648	26226.	160074.	5410	29.59
45	7751	0.0160	1.0991	0.03993	1.13903	24212.	133848.	5043	26.54
50	5683	0.0205	1.1790	0.05118	1.23013	19445.	109636.	4365	25.12
55	4667	0.0303	1.2613	0.07578	1.35708	18130.	90191.	3757	24.01
60	3419	0.0038	1.4328	0.00950	1.44235	14485.	72060.	3259	22.11
65	2736	0.0274	1.4518	0.06860	1.52045	12515.	57596.	2697	21.36
70	1716	0.0140	1.5690	0.03483	1.60392	6705.	45081.	2122	21.24
75	6600	0.0192	1.6588	0.04803	1.70682	38375.	38375.	4508	3.07

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4.48.10 KILIFI (MALES)

I	IPX(I)	R(I)	SR(I)	YSR(I)	RY(I)	ISL(I)	ITY(I)	LY(I)	EY(I)
	34631	0.0283	0.0000	0.00000	-.02080	34121.	421836.		
	30006	0.0348	0.0000	0.08703	0.08703	32734.	387715.	6685	53.00
	21591	0.0379	0.1741	0.09465	0.26670	26247.	354981.	6098	53.21
	16461	0.0421	0.3633	0.10535	0.46670	20305.	326734.	5454	59.91
	11771	0.0458	0.5740	0.11438	0.68843	23431.	300431.	4973	60.41
	11438	0.0413	0.8026	0.10320	0.90600	23302.	277000.	5173	53.55
	8842	0.0383	1.0092	0.09562	1.10463	26691.	248697.	5499	45.23
	8429	0.0065	1.2005	0.01635	1.21660	23459.	222006.	5515	40.25
	6475	0.0304	1.2331	0.07603	1.30918	23978.	193547.	5243	36.92
	6304	0.0357	1.3652	0.08918	1.47433	27536.	169569.	5151	32.92
	5088	0.0241	1.5636	0.06022	1.62377	25807.	142031.	5334	26.63
	4359	0.0147	1.6840	0.03678	1.72076	24362.	116224.	5016	23.17
	3518	0.0143	1.7576	0.03565	1.79320	21136.	91862.	4550	20.19
	3338	0.0082	1.8289	0.02060	1.84945	21217.	70724.	4235	16.70
	3530	0.0240	1.8701	0.06000	1.93005	24321.	49506.	4553	10.87
	3339	0.0122	1.9901	0.03052	2.02056	25165.	25165.	4950	5.09

4.48.11 KIRINYAG(MALES)

I	IPX(I)	R(I)	SR(I)	YSR(I)	RY(I)	ISL(I)	ITY(I)	LY(I)	EY(I)
	25107	0.0137	0.0000	0.00000	-.03323	24287.	267201.		
	21352	0.0295	0.0000	0.07370	0.07370	22985.	242914.	4727	51.39
	17064	0.0577	0.1474	0.14413	0.29153	22640.	219929.	4582	48.00
	13751	0.0568	0.4357	0.14192	0.57758	24405.	197090.	4730	41.67
	9131	0.0349	0.7195	0.08715	0.80665	20457.	172625.	4492	38.43
	7257	0.0378	0.8933	0.09447	0.98827	19497.	152168.	3995	38.09
	5663	0.0348	1.0823	0.08700	1.16975	18306.	132671.	3780	35.10
	4472	0.0094	1.2568	0.02355	1.28030	16089.	114365.	3439	33.26
	3846	0.0104	1.3038	0.02590	1.32975	14536.	98276.	3062	32.10
	3371	0.0104	1.3556	0.02598	1.38162	13421.	83738.	2795	29.96
	3070	0.0352	1.4076	0.08733	1.49547	13697.	70317.	2711	25.94
	2464	0.0141	1.5833	0.03527	1.61862	12434.	56620.	2613	21.67
	1975	0.0035	1.6539	0.00885	1.66275	10416.	44187.	2284	19.35
	1907	0.0133	1.6716	0.03323	1.70482	10489.	33771.	2090	16.16
	1515	0.0156	1.7380	0.03903	1.77712	7775.	23281.	1826	12.75
	2490	0.0051	1.8162	0.01275	1.82895	15506.	15506.	2328	6.66

4.48.12 MACHAKOS(MALES)

I	IPX(I)	R(I)	SR(I)	YSR(I)	RY(I)	ISL(I)	ITY(I)	LY(I)	EY(I)
	82645	0.0299	0.0000	0.00000	-.12645	72828.	1003647.		
	75507	0.0377	0.0000	0.09423	0.09423	82968.	931019.	16579	59.76
	81842	0.0403	0.1885	0.10067	0.23912	82575.	848051.	16554	51.23
	68079	0.0478	0.3898	0.11945	0.50925	81004.	765476.	16357	46.80
	29363	0.0521	0.6287	0.13038	0.75906	62728.	684472.	14373	47.62
	22102	0.0462	0.8895	0.11553	1.00496	60543.	621744.	12327	50.44
	17686	0.0453	1.1205	0.11330	1.23380	61425.	561201.	12196	46.02
	13441	0.0254	1.3471	0.06360	1.41070	55092.	499776.	11651	42.90
	13240	0.0225	1.4743	0.05630	1.53060	61181.	444684.	11627	38.25
	10124	0.0133	1.5869	0.03328	1.62018	51470.	383503.	11265	34.04
	10110	0.0464	1.6535	0.11612	1.76958	59329.	332033.	11079	29.97
	6880	0.0119	1.8857	0.02977	1.91546	60297.	272704.	11962	22.80
	5602	0.0237	1.9453	0.05922	2.00448	41579.	212407.	10187	20.85
	6430	0.0506	2.0637	0.12645	2.19015	57462.	170828.	9904	17.25
	3670	0.0054	2.3166	0.01355	2.33015	57726.	113366.	9518	11.91
	6752	0.0290	2.3437	0.07245	2.41615	75640.	75640.	11336	6.67

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4.4B.13 KISII (MALES)

IA(I)	IPX(I)	R(I)	SR(I)	YSR(I)	RY(I)	ISL(I)	ITY(I)	LY(I)	EY(I)
0	81237	0.0219	0.0000	0.00000	-.02377	79328.	564255.		
5	69919	0.0160	0.0000	0.04012	0.04012	72732.	484927.	15210	31.88
10	60708	0.0210	0.0802	0.05253	0.13278	69328.	412146.	14210	29.00
15	46165	0.0375	0.1853	0.09385	0.27915	61030.	342817.	13035	26.30
20	29519	0.0336	0.3730	0.08410	0.45710	46625.	281787.	10765	26.18
25	20591	0.0244	0.5412	0.06108	0.60227	37605.	235162.	8422	27.92
30	15423	0.0191	0.6633	0.04778	0.71112	31406.	197557.	6901	28.63
35	12612	0.0070	0.7589	0.01740	0.77630	27411.	166152.	5831	28.25
40	10413	0.0229	0.7937	0.05723	0.85092	24385.	138741.	5179	26.79
45	9323	0.0211	0.9031	0.05283	0.96097	24373.	114355.	4875	23.46
50	6538	0.0275	1.0133	0.06865	1.08245	19300.	89983.	4367	20.61
55	5485	0.0223	1.1511	0.05585	1.20695	18336.	70683.	3763	18.78
60	4196	0.0112	1.2628	0.02803	1.29082	15256.	52345.	3359	15.58
65	3767	0.0095	1.3188	0.02377	1.34262	14424.	37090.	2967	12.50
70	2035	0.0162	1.3864	0.04062	1.40702	8311.	22666.	2273	9.97
75	3282	0.0112	1.4476	0.02800	1.47565	14355.	14355.	2266	6.33

4.4B.14 KITUI (MALES)

IA(I)	IPX(I)	R(I)	SR(I)	YSR(I)	RY(I)	ISL(I)	ITY(I)	LY(I)	EY(I)
0	37549	0.0219	0.0000	0.00000	-.07513	34831.	349383.		
5	34630	0.0371	0.0000	0.09280	0.09280	37997.	314551.	7282	43.20
10	28279	0.0510	0.1856	0.12742	0.31302	38673.	276554.	7667	36.07
15	19989	0.0451	0.4404	0.11270	0.55315	34755.	237880.	7342	32.40
20	10670	0.0114	0.6658	0.02840	0.69425	21764.	203125.	5651	35.94
25	8678	0.0181	0.7226	0.04535	0.76800	18705.	181361.	4046	44.82
30	8072	0.0181	0.8133	0.04525	0.85860	19049.	162656.	3775	43.09
35	6557	0.0050	0.9038	0.01255	0.91640	16394.	143607.	3544	40.52
40	6561	0.0045	0.9289	0.01130	0.94025	16300.	127213.	3319	38.33
45	4906	0.0187	0.9515	0.04670	0.99825	13313.	110413.	3011	36.67
50	11408	0.0291	1.0449	0.07275	1.11770	34384.	97100.	4819	20.15
55	3895	0.0023	1.1904	0.00565	1.19610	12382.	62217.	4776	13.03
60	3969	0.0050	1.2017	0.01243	1.21417	13366.	49335.	2624	18.80
65	2762	0.0301	1.2266	0.07513	1.30172	10152.	35970.	2351	15.30
70	2749	0.0093	1.3768	0.02330	1.40015	11149.	25817.	2130	12.12
75	3208	0.0386	1.4234	0.09658	1.52002	14668.	14668.	2581	5.68

4.4B.15 KWALE (MALES)

IA(I)	IPX(I)	R(I)	SR(I)	YSR(I)	RY(I)	ISL(I)	ITY(I)	LY(I)	EY(I)
0	22246	0.0356	0.0000	0.00000	-.06118	20928.	289412.		
5	20403	0.0308	0.0000	0.07693	0.07693	22034.	268484.	4296	62.50
10	14557	0.0357	0.1539	0.08935	0.24320	18565.	246449.	4059	60.72
15	11820	0.0417	0.3325	0.10423	0.43677	18294.	227885.	3685	61.84
20	8533	0.0473	0.5410	0.11830	0.65930	16498.	209591.	3479	60.24
25	8946	0.0305	0.7776	0.07620	0.85380	21010.	193093.	3750	51.49
30	6619	0.0333	0.9300	0.08315	1.01315	18230.	172082.	3924	43.85
35	6345	0.0109	1.0963	0.02717	1.12348	19514.	153852.	3774	40.77
40	4716	0.0396	1.1507	0.09910	1.24975	16456.	134338.	3597	37.35
45	4709	0.0295	1.3489	0.07367	1.42253	19531.	117881.	3598	32.76
50	3325	0.0454	1.4962	0.11358	1.60973	16631.	98350.	3616	27.20
55	2751	0.0502	1.7234	0.12545	1.84880	17475.	81720.	3410	23.96
60	2149	0.0304	1.9743	0.07610	2.05035	16699.	64245.	3417	18.80
65	1672	0.0245	2.1265	0.06118	2.18763	14904.	47546.	3160	15.05
70	1059	0.0290	2.2486	0.07255	2.32135	10791.	32642.	2569	12.71
75	1912	0.0169	2.3939	0.04220	2.43610	21851.	21851.	3264	6.69

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4.4B.16 MERU (MALES)

IA(I)	IPX(I)	R(I)	SR(I)	YSR(I)	RY(I)	ISL(I)	ITY(I)	LY(I)	EY(I)
0	63616	0.0356	0.0000	0.00000	-.07533	63639.	759052.		
5	58975	0.0292	0.0000	0.07298	0.07298	65440.	695423.	12707	54.73
10	46011	0.0354	0.1460	0.08657	0.23452	58172.	631983.	12161	51.97
15	38314	0.0402	0.3231	0.10055	0.42365	53526.	573811.	11669	49.17
20	27771	0.0375	0.5242	0.09385	0.61805	51524.	515286.	11004	46.83
25	22804	0.0429	0.7119	0.10732	0.81922	51756.	463762.	10326	44.91
30	17796	0.0426	0.9266	0.10642	1.03297	49990.	412026.	10173	40.50
35	13825	0.0182	1.1394	0.04563	1.18500	45217.	362029.	9521	38.02
40	11349	0.0392	1.2306	0.09797	1.32857	42850.	316812.	8806	35.96
45	11174	0.0096	1.4265	0.02393	1.45047	47659.	273962.	9050	30.27
50	7874	0.0418	1.4744	0.10460	1.57900	38190.	226303.	8584	26.36
55	6909	0.0361	1.6836	0.09018	1.77377	40715.	188114.	7890	23.84
60	6101	0.0008	1.8639	0.00213	1.86607	39430.	147399.	8014	18.39
65	4579	0.0301	1.8682	0.07533	1.94352	31977.	107968.	7140	15.12
70	3195	0.0262	2.0158	0.06540	2.08425	25663.	75992.	5765	13.18
75	5662	0.0139	2.1496	0.03475	2.18440	50329.	50329.	7599	6.62

4.4B.17 MOMBASA (MALES)

IA(I)	IPX(I)	R(I)	SR(I)	YSR(I)	RY(I)	ISL(I)	ITY(I)	LY(I)	EY(I)
0	22393	0.0345	0.0000	0.00000	-.03492	21624.	311603.		
5	17781	0.0322	0.0000	0.08045	0.08045	19271.	289979.	4089	70.92
10	13668	0.0255	0.1609	0.06365	0.22455	17109.	270708.	3637	74.43
15	17402	0.0135	0.2882	0.03365	0.32185	24009.	253599.	4111	61.69
20	21551	0.0346	0.3555	0.08560	0.44210	33533.	229590.	5754	39.90
25	20111	0.0335	0.5287	0.08380	0.61250	37106.	196057.	7063	27.76
30	15017	0.0271	0.6963	0.06765	0.76395	32256.	158951.	6934	22.92
35	17968	0.0055	0.8316	0.01373	0.84532	41843.	126714.	7408	17.10
40	8526	0.0372	0.8590	0.09310	0.95215	22093.	84871.	6393	13.28
45	3386	0.0311	1.0452	0.07765	1.12290	10408.	62778.	3250	19.32
50	4425	0.0426	1.2005	0.10650	1.30705	16352.	52370.	2675	19.58
55	2744	0.0297	1.4135	0.07415	1.48770	12147.	36019.	2849	12.64
60	1840	0.0122	1.5616	0.03063	1.59247	9045.	23871.	2119	11.27
65	1169	0.0140	1.6231	0.03492	1.65802	6136.	14826.	1518	9.77
70	755	0.0021	1.6929	0.00530	1.69825	4126.	8690.	1026	8.47
75	817	0.0067	1.7035	0.01685	1.72040	4564.	4564.	868	5.26

4.4B.18 NANDI (MALES)

IA(I)	IPX(I)	R(I)	SR(I)	YSR(I)	RY(I)	ISL(I)	ITY(I)	LY(I)	EY(I)
0	24404	0.0383	0.0000	0.00000	-.05280	23149.	298575.		
5	20464	0.0403	0.0000	0.10080	0.10080	22634.	275426.	4578	60.16
10	16423	0.0384	0.2016	0.09593	0.29753	22114.	252791.	4474	56.50
15	12775	0.0487	0.3934	0.12172	0.51518	21384.	230677.	4349	53.04
20	10659	0.0467	0.6369	0.11668	0.75357	22646.	209293.	4403	47.53
25	9071	0.0304	0.8702	0.07605	0.94630	23306.	186647.	4601	40.57
30	6834	0.0389	1.0223	0.09717	1.11953	20935.	163279.	4430	36.86
35	5780	0.0255	1.2167	0.06363	1.28032	20795.	142343.	4173	34.11
40	4695	0.0253	1.3440	0.06318	1.40713	19175.	121548.	3997	30.41
45	4237	0.0059	1.4703	0.01482	1.43513	18709.	102373.	3788	27.03
50	3246	0.0368	1.5000	0.09195	1.59190	15958.	83664.	3466	24.14
55	3047	0.0150	1.6839	0.03740	1.72125	17037.	67707.	3299	20.52
60	2124	0.0011	1.7587	0.00270	1.76135	12362.	50669.	2939	17.24
65	2049	0.0211	1.7641	0.05280	1.81685	12006.	38307.	2496	15.35
70	1311	0.0167	1.8697	0.04167	1.91133	8865.	25701.	2147	11.97
75	2312	0.0130	1.9530	0.03238	1.98538	16835.	16835.	2570	6.55

THE ABRIDGED LIFE TABLES FOR MALES AND FEMALES THAT HAVE BEEN CONSTRUCTED USING THE 1969 AND 1979 CENSUSES DATA ONLY

4.45.19 NYERI (MALES)

IA(I)	IPX(I)	R(I)	SR(I)	YSR(I)	RY(I)	ISL(I)	ITY(I)	LY(I)	EY(I)
0	41850	0.0083	0.0000	0.00000	-.04890	39653.	469322.		
5	36418	0.0266	0.0000	0.06642	0.06642	41057.	429969.	8090	53.15
10	30296	0.0617	0.1328	0.15420	0.28705	40372.	388912.	8142	47.77
15	22304	0.0554	0.4412	0.13850	0.57975	39826.	348541.	8019	43.46
20	13253	0.0250	0.7182	0.06250	0.78075	26935.	308715.	6875	44.90
25	.9780	0.0323	0.8432	0.08078	0.92403	24640.	279782.	5357	52.23
30	.8559	0.0476	1.0048	0.11890	1.12370	26329.	255142.	5096	50.07
35	.0634	0.0350	1.2426	0.08752	1.33012	25067.	228813.	5141	44.51
40	5724	0.0359	1.4177	0.08987	1.50753	25847.	203726.	5093	40.00
45	4663	0.0204	1.5974	0.05095	1.64835	24240.	177879.	5008	35.52
50	4292	0.0283	1.6993	0.07078	1.77907	25200.	153639.	4943	31.08
55	3968	0.0091	1.8405	0.02277	1.86362	25582.	128440.	5078	25.29
60	3309	0.0034	1.8864	0.00862	1.89502	22014.	102858.	4759	21.61
65	3483	0.0196	1.9035	0.04890	1.95255	24543.	80844.	4655	17.37
70	2148	0.0251	2.0014	0.06270	2.06415	16923.	56300.	4146	13.58
75	4692	0.0002	2.1266	0.00048	2.12732	39377.	39377.	5630	6.99

4.46.20 SAMBURU (MALES)

IA(I)	IPX(I)	R(I)	SR(I)	YSR(I)	RY(I)	ISL(I)	ITY(I)	LY(I)	EY(I)
0	6488	0.0171	0.0000	0.00000	-.03733	6250.	43329.		
5	5806	0.0097	0.0003	0.02422	0.02422	5946.	37079.	1219	30.42
10	5270	0.0069	0.0484	0.01723	0.06567	5628.	31131.	1157	26.91
15	3976	0.0006	0.0829	0.00158	0.08447	4326.	25503.	995	25.63
20	2731	0.0131	0.0860	0.03263	0.11866	3075.	21177.	740	23.62
25	2113	0.0136	0.1513	0.03402	0.18533	2543.	18101.	561	32.27
30	1792	0.0062	0.2193	0.01550	0.23485	2206.	15558.	480	32.41
35	1669	0.0258	0.2503	0.06455	0.31490	2501.	13292.	482	27.58
40	1338	0.0020	0.3795	0.00505	0.38450	1965.	10731.	452	23.74
45	1416	0.0182	0.3895	0.04552	0.43503	2188.	8766.	415	21.12
50	998	0.0079	0.4806	0.01980	0.50040	1646.	6578.	383	17.17
55	709	0.0158	0.5202	0.03958	0.55978	1241.	4932.	288	17.12
60	624	0.0185	0.5993	0.04625	0.64560	1190.	3691.	243	15.19
65	416	0.0149	0.6918	0.03733	0.72917	863.	2501.	205	12.20
70	279	0.0238	0.7665	0.05942	0.82592	637.	1638.	149	11.00
75	358	0.0572	0.8353	0.14293	1.02827	1001.	1001.	163	6.14

4.48.21 S NYANZA(MALES)

IA(I)	IPX(I)	R(I)	SR(I)	YSR(I)	RY(I)	ISL(I)	ITY(I)	LY(I)	EY(I)
0	66686	0.0175	0.0000	0.00000	-.10898	59960.	536949.		
5	60453	0.0137	0.0000	0.03425	0.03425	62559.	476969.	12253	38.93
10	54487	0.0251	0.0685	0.06285	0.13135	62155.	414409.	12469	33.24
15	41599	0.0346	0.1942	0.08660	0.28080	55035.	352274.	11722	30.05
20	27083	0.0212	0.3674	0.05300	0.42040	41236.	297189.	9632	30.85
25	20163	0.0182	0.4734	0.04543	0.51882	33875.	255954.	7511	34.08
30	16532	0.0169	0.5642	0.04237	0.60662	29957.	222079.	6383	34.79
35	14035	0.0140	0.6490	0.03505	0.68405	27816.	192122.	5777	33.26
40	11962	0.0147	0.7191	0.03683	0.75592	25474.	164306.	5328	30.84
45	11432	0.0154	0.7927	0.03840	0.83115	26247.	138832.	5172	26.84
50	9452	0.0178	0.8695	0.04453	0.91407	23578.	112585.	4982	22.60
55	7902	0.0063	0.9586	0.01582	0.97443	20937.	89007.	4451	20.00
60	7373	0.0079	0.9902	0.01968	1.00992	20242.	68070.	4117	16.53
65	5638	0.0436	1.0296	0.10398	1.13657	17604.	47828.	3784	12.64
70	3397	0.0480	1.2475	0.11995	1.36750	13335.	30224.	3093	9.77
75	3677	0.0149	1.4875	0.03713	1.52456	16889.	16889.	3022	5.59

THE ABRIDGED LIFE TABLES FOR MALES AND FEMALES THAT HAVE BEEN CONSTRUCTED USING THE 1969 AND 1979 CENSUSES DATA ONLY

4.48.22 TAITA (MALES)

A(I)	IPX(I)	R(I)	SR(I)	YSR(I)	RY(I)	ISL(I)	ITY(I)	LY(I)	EY(I)
0	11820	0.0186	0.0000	0.00000	-.10825	10607.	121364.		
5	10815	0.0343	0.0000	0.08580	0.08580	11764.	110757.	2239	49.47
10	9073	0.0446	0.1716	0.11147	0.28307	12042.	98973.	2332	41.55
15	8191	0.0422	0.3946	0.10545	0.50000	10207.	86931.	2224	39.09
20	4062	0.0278	0.6055	0.06958	0.67503	7978.	76724.	1818	42.20
25	3947	0.0173	0.7446	0.04325	0.78785	3678.	68746.	1665	41.29
30	3330	0.0104	0.8311	0.02592	0.85703	7346.	60068.	1652	36.36
35	2939	0.0088	0.8630	0.02195	0.90490	7264.	52222.	1511	34.56
40	2427	0.0218	0.9269	0.05460	0.96145	6476.	44957.	1374	32.72
45	2272	0.0247	1.0360	0.06170	1.09775	6810.	38481.	1328	28.96
50	1738	0.0280	1.1594	0.07007	1.22952	5943.	31671.	1275	24.84
55	1486	0.0396	1.2996	0.09905	1.39665	6016.	25728.	1196	21.51
60	1077	0.0320	1.4977	0.08005	1.57775	5217.	19710.	1123	17.55
65	866	0.0433	1.6576	0.10825	1.76605	5064.	14493.	1026	14.10
70	570	0.0176	1.8743	0.04398	1.91827	3861.	9429.	894	10.55
75	755	0.0129	1.9622	0.03218	1.99442	5548.	5548.	942	5.89

4.48.23 TURKANA (MALES)

A(I)	IPX(I)	R(I)	SR(I)	YSR(I)	RY(I)	ISL(I)	ITY(I)	LY(I)	EY(I)
0	10316	0.0127	0.0000	0.00000	-.18998	8531.	122272.		
5	11245	0.0075	0.0000	0.01875	0.01875	11456.	113741.	1998	56.93
10	11069	0.0203	0.0375	0.05067	0.08817	12089.	102283.	2354	43.45
15	10899	0.0228	0.1368	0.05697	0.19582	13257.	90193.	2534	35.59
20	7079	0.0020	0.2523	0.00505	0.25785	9161.	76937.	2241	34.33
25	6085	0.0054	0.2629	0.01355	0.27645	8023.	67776.	1718	39.45
30	4627	0.0162	0.2900	0.04060	0.33060	6446.	59753.	1446	41.32
35	4317	0.0279	0.3712	0.06970	0.44090	6709.	53313.	1314	40.57
40	3176	0.0222	0.5106	0.05547	0.56607	5594.	46604.	1230	37.89
45	3089	0.0115	0.6215	0.02868	0.65022	5916.	41010.	1151	35.63
50	2239	0.0326	0.6789	0.08155	0.76045	4790.	35091.	1070	32.80
55	1557	0.0318	0.8420	0.07953	0.92152	3915.	30302.	870	34.83
60	1444	0.0742	1.0010	0.18560	1.18665	4731.	26389.	864	30.54
65	1045	0.0760	1.3725	0.18998	1.56225	4984.	21658.	971	22.30
	752	0.1227	1.7522	0.30673	2.05892	5894.	16674.	1087	15.34
	755	0.1172	2.3656	0.29310	2.65875	10780.	10780.	1667	6.47

4.48.24 U GISHU (MALES)

A(I)	IPX(I)	R(I)	SR(I)	YSR(I)	RY(I)	ISL(I)	ITY(I)	LY(I)	EY(I)
	23611	0.0421	0.0000	0.00000	-.10655	21404.	329856.		
	20573	0.0421	0.0000	0.10525	0.10525	22856.	308451.	4426	69.69
	15784	0.0527	0.2105	0.13185	0.34235	22228.	285595.	4508	63.35
	12814	0.0229	0.4742	0.05720	0.53140	21801.	263367.	4402	59.83
	11134	0.0611	0.5886	0.15280	0.74140	23369.	241566.	4516	53.49
	9854	0.0402	0.8942	0.10048	0.99468	26644.	218198.	5001	43.63
	7671	0.0428	1.0951	0.10712	1.20227	25527.	191554.	5217	36.72
	6008	0.0262	1.3094	0.06563	1.37503	23763.	166027.	4928	33.69
	4869	0.0390	1.4407	0.09750	1.53815	22670.	142265.	4643	30.64
	4052	0.0194	1.6357	0.04853	1.68416	21832.	119595.	4450	26.86
	2967	0.0416	1.7327	0.10392	1.83665	18619.	97763.	4045	24.17
	2478	0.0368	1.9406	0.09202	2.03256	18916.	79144.	3753	21.09
	1646	0.0179	2.1246	0.04478	2.16937	14407.	60227.	3332	18.08
	1453	0.0426	2.2142	0.10655	2.32070	14796.	45820.	2920	15.69
	935	0.0371	2.4273	0.09280	2.52005	11621.	31025.	2641	11.75
	1288	0.0398	2.6129	0.09950	2.71235	19403.	19403.	3102	6.26

THE ABRIDGED LIFE TABLES FOR MALES AND FEMALES THAT HAVE BEEN CONSTRUCTED USING THE 1969 AND 1979 CENSUSES DATA ONLY

4.48.25 SIAYA (MALES)

IA(I)	IPX(I)	R(I)	SR(I)	YSR(I)	RY(I)	ISL(I)	ITY(I)	LY(I)	EY(I)
0	37815	0.0139	0.0000	0.00000	-.11290	33776.	395696.		
5	34330	0.0173	0.0000	0.04315	0.04315	35844.	362118.	6962	52.01
10	30083	0.0292	0.0863	0.07296	0.15927	35277.	326275.	7112	45.88
15	21579	0.0333	0.2323	0.08325	0.31550	29584.	290998.	6436	44.87
20	10835	0.0174	0.3986	0.04343	0.44218	16860.	261414.	4644	56.29
25	7747	0.0298	0.4856	0.07463	0.56023	13566.	244554.	3042	80.39
30	6998	0.0258	0.5349	0.06440	0.69925	14082.	230988.	2764	83.57
35	6245	0.0920	0.7637	0.22995	0.99360	16867.	216906.	3094	70.11
40	6202	0.0180	1.2235	0.04507	1.28862	22054.	200039.	3892	51.40
45	6242	0.0206	1.3137	0.05140	1.36510	24444.	177985.	4649	38.28
50	6022	0.0229	1.4165	0.05713	1.47362	26266.	153541.	5073	30.27
55	5516	0.0096	1.5307	0.02412	1.55487	26115.	127254.	5240	24.29
60	5217	0.0065	1.5790	0.01620	1.59520	25716.	101139.	5183	19.51
65	4367	0.0452	1.6114	0.11290	1.72430	24493.	75423.	5020	15.02
70	2793	0.0521	1.8372	0.13015	1.96735	19975.	50930.	4446	11.46
75	3479	0.0353	2.0975	0.08330	2.18580	30955.	30955.	5093	6.08

4.48.26 KIAMBU (MALES)

IA(I)	IPX(I)	R(I)	SR(I)	YSR(I)	RY(I)	ISL(I)	ITY(I)	LY(I)	EY(I)
0	57217	0.0201	0.0000	0.00000	-.02853	55605.	798377.		
5	48907	0.0327	0.0000	0.08183	0.08183	53077.	742772.	10868	63.34
10	38435	0.0575	0.1637	0.14570	0.30735	52265.	689695.	10534	65.47
15	30521	0.0525	0.4511	0.13137	0.58243	54644.	637430.	10690	59.63
20	24965	0.0456	0.7136	0.12143	0.83522	57553.	582786.	11219	51.95
25	20169	0.0512	0.9567	0.12790	1.08455	59602.	525233.	11721	44.81
30	15957	0.0547	1.2124	0.13670	1.34915	61561.	465571.	12116	38.43
35	11521	0.0337	1.4853	0.08430	1.57015	55366.	404071.	11638	34.57
40	9269	0.0444	1.6545	0.11098	1.76543	54169.	348665.	10955	31.83
45	7627	0.0244	1.3764	0.06100	1.93740	52957.	294516.	10710	27.50
50	5940	0.0272	1.9984	0.06800	2.06640	46904.	241580.	9984	24.20
55	5457	0.0061	2.1344	0.01522	2.14963	46830.	194676.	9373	20.77
60	4098	0.0047	2.1649	0.01183	2.17667	36132.	147846.	8296	17.82
65	3888	0.0114	2.1885	0.02858	2.21707	35694.	111714.	7182	15.55
70	2203	0.0701	2.2456	0.17515	2.42080	24794.	76020.	6048	12.57
75	3658	0.0174	2.5959	0.04338	2.63932	51226.	51226.	7602	6.74

4.5 Population Projections that have been Calculated from the Age Specific Growth Rates

If the Growth Rates of the population that are calculated for the intercensal period 1969 to 1979 do not change, thus, the fertility levels and the mortality levels in the future years are similar to the one that was there between 1969 and 1979, then it can be possible to estimate the Kenya population by the year 2000 at the national level.

To be able to estimate the future population, it is assumed that the population grows exponentially.

4.6 Procedure for Calculating the Population Projections from the Age Specific Growth Rates.

Basic equation: $N(t)=N(0)e^{rt}$ .....(4.2.9)

Here N(t) and N(O) are the populations at times t and 0 respectively;
r is the growth rate, and t is the number of years between the two population estimates.

From equation (4.2.9) the following equations are derived:

i) $${}_5N_a^{t_2} = {}_5N_a^{t_1}\ e^{{}_5r_a(t_2-t_1)}$$

where ${}_5N^{t_2}_a$ and ${}_5N^{t_1}_a$ are the populations in the age group a to a+4 at times t_2 and t_1 respectively; ${}_5r_a$ is the age specific growth rate.

(ii) Calculate the estimates of the population up to the year 2000 in the following way:

a) The population in 1975 can be calculated from the population of 1969 using the formula:

$$ {}_5N_a^{1975} = {}_5N_a^{1969} \; e^{6\,{}_5r_a} $$

b) the population in 1980 can be calculated from the population of 1975 using the formula:

$$ {}_5N_a^{1980} = {}_5N_a^{1975} \; e^{5X5\,{}_5r_a} $$

c) Similarly, the population of 1985, 1990, 1995, and 2000 can be calculated using the same formula as in part (b)

4.7 Computer Program for the Population Projection

Variables used

1) IPX(I), NPOP(I), IPOP(I), IXPOP(I), IYPOP(I), IZPOP(I), IUPOP(I) are the populations in age

group IA(I) in the years 1969, 1975, 1980, 1985 1990, 1995, 2000, and 2005 respectively.

2) R(I) is $5^{r}a$, the age specific growth rate in age group a to a+4.

3) S is the name of the region

4) SUMIP, SUMN, SUMP, SUMX, SUMY, SUMZ, SUMU are the total populations in 1974, 1980, 1985, 1990, 1995, 2000 and 2005 respectively.

The rest of the computer program that the author has written is in Appendix A7.

4.5.4 Analysis of the Population Projections

The projections of the Kenya population at the national level, Males and Females respectively, are displayed in Tables 4.8A.1 and 4.8A.2.

By the year 2000, the Kenya population is expected to include 15,677,549 males and 16,614,208 females or the total population of Kenya is expected to be 32,291,757.

THE KENYA POPULATION PROJECTIONS AT THE NATIONAL LEVEL FOR THE YEARS 1974, 1980, 1985, 1990, 1995, AND 2000 BY AGE AND SEX

1 KENYA (MALES)

1974	1980	1985	1990	1995	2000	2005	AGE GROUPS
1441433	1484275	1722499	1998953	2319733	2692111	3124191	0-4
1133131	1304547	1523264	1778651	2076756	2425037	2831937	5-9
837903	1115331	1353548	1643372	1994814	2421411	2938[illegible]	10-14
703013	913067	1123629	1395022	1724441	2131557	2634757	15-19
555369	683287	837327	1026094	1257416	1540387	1886234	20-24
432553	546063	663111	805241	977435	1187423	1441624	25-29
343565	428655	515430	619771	745235	896097	1077493	30-34
271431	295767	317656	341165	366414	393582	422687	35-39
227978	273086	317423	363958	423860	493483	574421	40-44
195937	226325	255219	287801	324543	365976	412693	45-49
157676	191833	225647	265422	312208	367241	431773	50-54
127368	144794	160599	178129	197572	219158	243033	55-59
105199	108532	111390	114324	117335	120425	123597	60-64
87362	104215	120717	139833	161976	187625	217336	65-69
57433	69533	81540	95621	112133	131497	154205	70-74
65523	88482	91021	95633	96320	99004	101923	75+
4706.	7977797.	9425320.	11152056.	13213746.	15677540.	18624425.	

2 KENYA (FEMALES)

1974	1980	1985	1990	1995	2000	2005	AGE GROUPS
1435153	1485956	1733440	2022143	2359329	2751[illegible]	3211117	0-4
1170171	1307240	1544450	1824704	2155812	2547[illegible]	3009172	5-9
844743	1096734	1363270	1694582	2106412	2618323	3254651	10-14
717032	962111	1229152	1570312	2006163	2562980	3274364	15-19
562065	733048	905793	1119246	1383009	1708938	2111613	20-24
476739	562763	646205	742013	852025	978343	1123430	25-29
356337	432592	508464	597643	702463	825067	970430	30-34
295385	334587	371202	411624	456391	506390	562301	35-39
238063	286026	333296	388378	452563	527356	614511	40-44
195108	231928	270176	314732	366656	427100	497336	45-49
165219	200094	234713	275333	322977	378983	444624	50-54
113506	139874	160595	184387	211703	243065	279075	55-59
102112	111674	123523	129642	139683	150391	163137	60-64
73539	86511	99277	113927	130737	150054	172172	65-69
54319	65391	76323	89083	103976	121359	141640	70-74
81192	88158	94417	101121	108301	115991	124227	75+
5140.	8124692.	9691102.	11579070.	13658273.	16614206.	19951924.	

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CHAPTER FIVE

ADULT MORTALITY DIFFERENTIALS

5.1 INTRODUCTION

In this chapter, an attempt is made to find out if there exist any adult mortality differentials at the National and the District levels in Kenya. To achieve this goal, the differentials that will be considered are those that are related with age, sex or differentials by district.

5.2 ADULT MORTALITY DIFFERENTIALS

A summary of the life expectancy estimates for selected districts at ages 0,5,30,35,45,55, and 75 are displayed in Tables (5.2.1) and (5.2.2)

In Table 5.2.1, the life expectancy at age 0 in most districts is greater for males than for females. The trend seems to continue in some districts up to age 45. At age 55, the e_{55} estimate is greater for females than for males in some districts. Maybe, it is because the women at age 55 are no longer giving birth and therefore they are no longer affected by the diseases that occur during child birth or during the early years of a baby's life. Among the exceptional districts are Meru, Machakos, Kisii, and Kiambu, where the value of e_{55} is greater for males than for females.

From the same Table, the life expectancy at age 0 is lower than that at age 5 in most districts. This can be attributed to the fact that during the first years of life, the type of environment, which influences the diseases in a particular area, seems to affect the children more than it affects the adults.

Results from the Preston Census based method indicate that the life expectancy at age 5 for females is greater than the life expectancy for males in most districts. Like in Table (5.2.1), the estimates of the life expectancies from age 5 to 45 are generally greater for males than for females. Unlike in Table (5.2.1),the estimates at age 55 are sometimes greater for females than for males. The difference in the estimates can be attributed to the fact that there exists some age misreporting in the incomplete death Registration data or the fact that the intercensal migration is more pronounced among the males.

In Table (5.2.3), some districts have been classified into those with high,low, and medium life expectancy estimates. The comparison of the life expectancy estimates has been done in relation with the national life expectancy estimates computed using similar methods.

The districts with the low life expectancy estimates can be regarded as those districts in which there is a high mortality rate. Those with medium

estimates can be regarded as those with mortality rates that are closer to the national mortality levels. Low mortality is found in those districts that have high life expectancy estimates.

Table 5.2.1 A Summary of the Life Expectancy Estimates Obtained Using the Bennett-Horiuchi Method

District	e_0		e_5		e_{30}		e_{35}		e_{45}		e_{55}		e_{75}	
	Males	Fe-Males	Males	Fe-Males	Males	Males	Males	Fe-Males	Males	Fe-Males	Males	Fe-Males	Males	Fe-Males
1. Kenya	57.11	55.68	59.20	60.23	37.82	40.14	33.89	36.23	26.35	28.49	19.50	21.23	7.55	8.54
2. Baringo	47.96	39.40	48.20	49.44	32.00	36.34	29.00	31.79	24.60	31.52	19.85	23.57	5.83	3.07
3. Bungoma	59.16	54.84	62.18	61.28	40.81	42.41	36.69	38.28	29.03	30.06	21.37	22.07	7.39	11.41
4. Embu	58.86	54.24	61.79	59.43	40.14	37.93	36.03	34.27	28.71	27.21	21.51	18.81	13.96	4.00
5. Kakamega	55.92	49.60	60.65	58.28	39.52	39.40	35.41	35.76	27.05	27.30	19.43	19.09	7.01	5.98
6. Kericho	46.15	49.39	57.77	65.57	38.33	45.89	34.70	41.24	28.07	31.96	19.92	22.43	2.39	2.77
7. Kirinyaga	52.72	56.12	61.01	62.28	39.20	41.44	35.37	37.21	27.18	28.48	19.84	20.14	5.77	7.04
8. Machakos	60.92	57.33	63.16	61.51	42.70	41.97	38.50	37.91	31.17	30.00	24.27	22.08	11.60	6.82
9. Kisii	44.10	40.96	44.86	45.26	25.74	28.38	22.81	22.50	18.38	17.94	14.43	12.83	12.98	12.27
10. Kitui	45.03	51.61	54.52	60.71	35.71	40.71	31.83	38.35	25.01	32.26	20.07	26.80	11.53	12.94
11. Meru	53.82	49.13	56.75	55.09	35.82	36.51	32.38	33.25	25.44	25.32	19.37	18.45	10.51	14.05
12. Narok	52.44	40.56	59.14	50.57	37.58	37.64	34.60	34.07	30.82	29.36	26.99	19.61	8.45	5.67
13. Nyeri	63.38	58.32	64.44	60.76	42.51	38.57	38.74	34.22	31.50	26.17	24.95	17.57	21.06	0.81
14. Taita	57.11	56.57	60.65	60.29	37.32	36.82	33.91	32.05	26.18	25.73	20.37	18.07	7.16	0.47
15. Siaya	55.88	55.72	62.83	59.24	40.47	36.03	35.81	31.41	26.98	22.58	19.21	15.17	6.62	0.21
16. Kiambu	68.63	58.99	69.14	65.38	46.22	44.04	42.08	39.98	33.72	32.14	25.76	33.64	10.01	6.44
17. Gishu U	65.37	67.06	66.54	67.92	43.76	44.22	39.84	39.24	31.62	29.74	22.86	19.79	4.98	0.92
18. S. Nyanza	44.10		53.98		33.89		29.67		22.83		17.15		5.44	
19. Nyandarua	63.68	41.26	66.30	54.52	44.09	38.44	38.65	37.70	29.44	26.72	20.72	16.44	4.88	1.58
20. Mombasa	48.67	52.38	52.53	56.96	30.99	36.58	27.28	32.64	20.27	24.95	13.94	17.93	3.66	4.99
21. Nairobi	53.78	56.49	53.21	57.49	31.78	36.89	28.39	32.93	21.63	25.70	15.13	18.91	1.59	3.99
22. Kisumu	42.28	57.72	48.79	58.12	29.64	35.60	25.83	31.05	19.35	22.59	13.97	16.35	5.41	5.07
23. Murang'a	70.73	58.60	69.77	61.65	46.69	39.52	42.22	35.29	33.20	27.30	25.65	18.81	12.57	1.22

Table 5.2.2: A SUMMARY OF THE LIFE EXPECTANCY ESTIMATES OBTAINED USING THE PRESTON-CENSUS METHOD

	e_5		e_{30}		e_{35}		e_{45}		e_{55}		e_{75}	
District	Males	Fe-Males	Males	Fe-Males	Males	Fe-Males	Males	Fe-Males	Males	Fe-Males	Males	Fe-Males
1. Kenya												
2. Baringo	45.44	41.34	31.86	26.56	30.11	26.98	25.36	22.95	21.16	18.79	6.40	6.40
3. Murang'a	67.40	61.51	68.04	44.46	57.93	39.67	42.09	31.17	27.76	23.47	6.84	6.82
4. Kakamega	45.01	46.45	49.94	33.38	47.67	30.84	40.80	23.74	23.80	44.49	6.73	5.32
5. Kericho	43.22	42.76	29.57	33.13	29.66	33.48	26.54	27.96	24.01	20.03	8.07	6.52
6. Kirinyaga	51.39	53.81	35.10	36.26	33.26	34.61	29.96	29.79	21.67	21.66	6.66	6.78
7. Machakos	59.76	66.39	46.02	40.43	42.90	39.54	34.04	32.90	22.80	20.43	6.67	6.88
8. Kitui	43.20	60.28	43.09	36.41	40.52	33.96	36.67	31.13	13.03	19.76	5.68	5.59
9. Meru	54.73	59.68	40.50	40.66	38.02	39.75	30.27	28.22	23.84	20.62	6.62	6.46
10. Nyeri	53.15	56.28	50.07	42.32	44.51	37.75	35.52	29.80	25.19	22.64	6.99	6.65
11. Taita	49.47	53.72	36.36	37.53	34.56	35.49	28.98	28.41	21.51	19.47	5.89	5.86
12. Kiambu	68.34	61.55	38.43	37.61	34.57	34.96	27.50	29.22	20.77	23.32	6.74	6.64
13. Nyandarua	35.45	64.98	44.09	40.68	38.65	32.22	29.44	26.57	20.72	20.42	4.88	6.55

Table 5.2.3 : INTER-DISTRICT ADULT MORTALITY DIFFERENTIALS

	DISTRICTS		DISTRTICS	
	Bennett-Horiuchi Method		Preston-Census Method	
	Males	Females	Males	Females
High Life expectancy estimates	1. Kiambu 2. Nyeri 3. Machakos 4. Bungoma 5. Murang'a	1. Nyeri 2. Kiambu	1. Machakos 2. Kiambu 3. Muranga	1. Machakos 2. Kitui 3. Kiambu
Medium Life expectancy estimates	1. Kakamega 2. Siaya 3. Taita	1. Bungoma 2. Busia 3. Kisii 4. Embu 5. Murang'a	1. Meru	1. Kirinyaga 2. Kitui 3. Nyeri
Low Life expectancy estimates	1. Kitui 2. Kisii 3. Kericho 4. Baringo	1. Trans-Nzoia 2. West Pokot	1. Kitui 2. Baringo	1. Baringo 2. Kericho

CHAPTER SIX

CONCLUDING SUMMARY AND RECOMMENDATIONS

6.1 INTRODUCTION

The objectives of this study were to use a computer to:

(i) Estimate the degree of completeness of the death Registration data of 1979 in Kenya at the National and District levels.

(ii) Construct the life tables for Kenya at the National and District levels using the Bennett-Horiuchi (1982) technique and the Preston (1981) census based technique.

(iii) Use the age specific growth rates that have been calculated from the two censuses to carry out projections for the Kenya population in age interval up to the year 2000.

To achieve the above objectives, the study was divided into six chapters.

The Objectives of the Study, Problem Statement, Theoretical Framework, Hypothesis, Literature Review and the type of data to be used comprised chapter one.

In chapter two, the methods of analysis are discussed in details, whereas chapter three deals with the application of some of the methods discussed in chapter two on the death

registration data of 1979 and 1979 population census in order to examine the degree of completeness of the data and to construct life tables for Kenya at the National and District levels.

The Preston-Census based method is used for constructing the life tables in chapter lV. The growth rates are then used for the purpose of projecting the Kenya population at the national level to the year 2000.

An investigation of the district adult mortality differentials is done in chapter five.

Chapter six incorporates a summary of the major findings in the study and the limitations of the methods of analysis that were used in the study. It also provides recommendations for policy planners and for further research.

6.2 CONCLUDING SUMMARY

The death registration data of Kenya at the national and district levels is incomplete. The quality of the death registration data in most districts was better for males than females.

For males, Siaya had a relatively better death registration system than the other districts whereas Turkana, Elgeyo Marakwet, Samburu had a relatively poor death registration process.

In the case of females, the relatively better death registration data was found in Nairobi, Mombasa and Uasin Gishu and the least relatively reliable one was found in Elgeyo Marakwet, Turkana, and Marsabit.

The life tables that have been constructed gave higher life expectancy estimates for males than that for females in some districts at ages 0-45. At age 55, the life expectancy estimates for females were lower than those for males in several districts when the Bennett-Horiuchi method was used whereas they were mostly higher for males than females when the Preston-Census method was used.

The Bennett-Horiuchi (1982) method for constructing life tables, when applied to the Kenya data, gave results that indicated that for males, Kiambu, Nyeri, Machakos, Bungoma and Murang'a had relatively higher life expectancy estimates. On the other hand, Kitui, Kisii, Kericho and Bungoma had relatively lower life expectancy estimates when the same technique was used.

For females, using the Bennett-Horiuchi (1982) method, Nyeri and Kiambu had the higher life expectancy estimates whereas West Pokot had lower life expectancy estimates.

Machakos, Kiambu, and Murang'a had higher life expectancy estimates for males when the Preston (1981) census based method was used. Kitui and Baringo had relatively lower life expectancy estimates. Males in Meru had life expectancy

estimates that were closer to the national estimates when the same technique was used.

From the Preston-Census based method, Machakos (Females), Kitui (Females), Kiambu (Females were found to belong to the higher life expectancy estimate group among females. Baringo and Kericho were found to belong to the lower life expectancy group, and Kirinyaga, Kitui and Nyeri have estimates that were relatively closer to the national ones.

The adult mortality differentials can also be attributed to the differences in the environmental (biotic) characteristics that exist in Kenya. Kenya experiences wide variations in climate due to great differences in altitude. The districts in the narrow coastal belt, which lie between 0 metres and 250 metres above sea -level are relatively wet and moist. For instance Lamu receives 10,460 millimetres of rainfall and Kilifi receives 9771 millimetres of rainfall annually. Being wet and humid the climate is condusive for the survival of mosquitoes and worms which can cause Malaria, Bilharzia, and other diseases and hence contribute to a higher level of mortality. Behind the coastline, lie large areas of semi-arid and arid land, which is between 250 metres and 1100 metres above sea-level. The district in this region like Kitui (with an annual rainfall of 4174 millimetres) and Marsabit (with an annual rainfall of 3190 millimetres) have a higher level of mortality as shown in Table (5.2.1) and Table (5.2.2).

Being hot and dusty, this area can be convenient for the spreading of Respiratory diseases and not the infectious diseases like Malaria. The land then rises steeply to the cool and moist temperate Highland Plateau, which lies between 1500 metres and 6000 metres above sea-level. The districts in this region like Kiambu, Murang'a and Nyeri with the total annual rainfall figures of 11002 millimetres, 7250 millimetres, and 8337 millimetres respectively have got low-levels of mortality as shown in Table (5.2.1). This is because of the fact that the mosquitoes and other insects which can spread the infections and parasitic diseases cannot survive well within this region. Another wet area lies between 1000 metres and 1000 metres and covers Western Kenya just East of Lake Victoria. The area is wet and humid and is suitable for the survival of mosquitoes and worms which cause Malaria, Diarhoea, and other diseases and hence increase the level of mortality. Districts in this region like Kisumu and Kakamega with annual rainfall totals as 10437 millimetres and 25473 millimetres respectively, have a higher level of mortality as compared to the districts in the temperate Highland Plateau as shown in Table (5.2.1). In the north, districts like Elgeyo Marakwet and Baringo (they lie between 300 metres and 1800 metres above sea-level) with total annual rainfall figures of 8390 millimetres and 2492 millimetres respectively, have higher levels of mortality as shown in Table 5.2.1) and Table (4.4B.4). The higher level of mortality can be attributed to the hot, dusty climate that is condusive for respiratory diseases and a shortage of water. (For

detailed information regarding environment and mortality, refer to Bunyasi (unpublished M.Sc. Thesis, 1984)].

Using the geometrical ratio of the population growth rate that has been compounded annually, it was found out that, the total population of Kenya in the year 2000 will be 32,291,757. Among this, the males will comprise 15,577,549 and the females will comprise 16,614,208.

6.3 LIMITATIONS OF THE METHODS USED

6.3.1 Bennett-Horiuchi (1982) Method

(i) The estimated completeness tends to be biased upwards in the presence of net migration and downwards by net in-migration.

(ii) It is assumed that there exists a reasonable high age above which all age mistatements are found to occur.

(iii) The method is based on the assumption that the under-registration of deaths is independent of age at least among adults.

(iv) The method is sensitive to the differential enumeration of the two censuses.

(v) Under-enumeration of the population is assumed to be constant over age.

6.3.2 The Bennett-Horiuchi (1982) Method of Constructing Life Tables

The major drawback of this method is that the life expectancy at birth is not accurate because the deaths under five are recorded to a lesser extent than those above age five.

6.3.3 Preston-Census (1981) Based Method

(i) Errors in the estimated growth rates that are calculated from the two consecutive censuses.

(ii) Net migration during the intercensal period distorts both the age distribution and the age pattern of the growth rates.

(iv) Age misreporting.

6.3.4 Geometrical Ratio of the Population Growth Rate that has been Compounded Annually, Formula.

(i) It assumes that the migration rates that were there will remain as they were during the intercensal period.

(ii) It also assumes that the population grows exponentially.

6.4.1 RECOMMENDATIONS FOR POLICY PLANNERS

As it has been found out in the study, the degree of completeness of the death registration data was poor especially in the districts that are in the semi-arid zones of the country. It would be better if the death registration process was to be improved in this areas by deploying more registration officials.

Among the regions with high mortality rates (lower life expectancy estimates) were Baringo and Kitui. To improve the mortality situation in these areas, the medical services that are there should be expanded.

By comparing the life expectancy estimates at ages 0 and 5, the estimates at age 0 were greater than those at age 5 in most districts. The policy planners should consider the expansion of the maternal child care services in most districts so that the child mortality levels can be reduced.

6.4.2 RECOMMENDATIONS FOR FURTHER RESEARCH

The district adult mortality differentials have been confirmed in this study. It is therefore necessary to carry out a study to find out the reasons that bring about the adult mortality differentials.

In this study, the age specific growth rates have been used to project the Kenya popoulation to the year 2000. To be able to get a more accurate value of the population projection, it is recommended that the other methods of population projections be used for comparison purposes.

APPENDIX OF TABLES

Table A.1(i)

The ratio, $30^{d}10/20^{d}40$, and corresponding e(x) values (x=75, ...,95) associated with many levels of mortality in the Coale-Demeny West Model Life Tables, males and females.

Level	Ratio	e(75)	e(80)	e(85)	e(90)	e(95)
3	1.161	6.05	4.55	3.35	2.41	1.71
4	1.094	6.31	4.75	3.49	2.51	1.77
5	1.034	6.57	4.95	3.63	2.60	1.83
6	.980	6.82	5.14	3.77	2.70	1.90
7	.930	7.06	5.32	3.90	2.79	1.95
8	.885	7.29	5.49	4.03	2.87	2.01
9	.842	7.52	5.67	4.15	2.96	2.07
10	.802	7.74	5.83	4.27	3.04	2.12
11	.763	7.96	5.99	4.38	3.12	2.18
12	.725	8.17	6.15	4.50	3.20	2.23
13	.689	8.38	6.30	4.61	3.28	2.28
14	.648	8.55	6.43	4.70	3.34	2.32
15	.609	8.71	6.55	4.79	3.40	2.36
16	.570	8.88	6.68	4.88	3.47	2.40
17	.530	9.06	6.81	4.98	3.53	2.45
18	.490	9.26	6.95	5.09	3.61	2.50
19	.447	9.46	7.11	5.20	3.68	7.55
20	.401	9.67	7.26	5.31	3.77	2.60
21	.352	9.90	7.43	5.44	3.85	2.66
22	.305	10.25	7.70	5.63	3.99	2.75
23	.255	10.70	8.03	5.88	4.16	2.86
24	.202	11.28	8.48	6.21	4.40	3.02
25	.147	12.06	9.08	6.66	4.71	3.23

Source: Bennett N.G. and S. Horiuchi, 1982 op.cit., pp.11

Table A.1(ii)

FEMALES

Level	Ratio	e(75)	e(80)	e(85)	e(90)	e(95)
2	1.461	6.15				
3	1.376	6.45	4.88	3.57	2.54	1.78
4	1.300	6.75	5.11	3.73	2.65	1.86
5	1.233	7.05	5.33	3.89	2.76	1.93
6	1.171	7.34	5.54	4.04	2.87	1.99
7	1.115	7.62	5.75	4.19	2.97	2.06
8	1.062	7.89	5.95	4.33	3.07	2.12
9	1.012	8.16	6.14	4.47	3.16	2.19
10	.964	8.42	6.33	4.61	3.26	2.25
11	.918	8.67	6.52	4.74	3.35	2.31
12	.372	8.92	6.70	4.88	3.44	2.37
13	.827	8.17	6.88	5.00	3.53	2.43
14	.787	9.37	7.02	5.11	3.60	2.47
15	.729	9.56	7.16	5.21	3.67	2.52
16	.673	9.77	7.32	5.33	3.75	2.57
17	.617	9.99	7.48	5.44	3.83	2.63
18	.660	10.23	7.65	5.57	3.92	2.68
19	.501	10.48	7.83	5.70	4.01	2.74
20	.488	10.73	8.01	5.84	4.11	2.80
21	.365	11.01	8.22	5.99	4.21	2.87
22	.298	11.44	8.54	6.22	4.38	2.98
23	.235	11.97	8.94	6.62	4.69	3.12
24	.175	12.65	9.46	6.91	4.86	3.10
25	.117	13.52	10.17	7.45	5.24	3.84

Source: Bennett N.G. and S. Horiuchi, 1982 op.cit., pp.11

Table A.2 Coefficients of Estimating Z(A) from the Ratio of Deaths over age 45 to the Population over age 10

1	2	3	4	5
Regional Family	A	a(A)	b(A)	C(A)
West	45	-13.43	181.4	17.57
	50	-12.49	163.6	15.49
	55	-11.24	143.7	13.34
	60	- 9.50	121.2	11.07
	65	- 7.21	96.1	8.67
	70	- 4.48	69.2	6.23
	75	- 1.64	42.9	3.91
	80	- .72	20.5	1.98
	85	2.03	5.9	.70

Source: Hill, K. and H. Ztolnik, 1982 op.cit. pp.21

Table A3: Coefficients for Estimating (A) from the Growth Rates over Age 10 and the Ratio of the Deaths over age 45 to the Population over age 10.

Estimating the equation:

$$(A) = a(A) + b(A)\,r(10+) + C(A)\ln[N(45+)/N(10+)]$$

1	2	3	4
Age	a(A)	b(A)	c(A)
45	.229	20.43	.258
50	.205	18.28	.235
55	.179	16.02	.207
60	.150	13.66	.176
65	.119	11.22	.141
70	.086	8.77	.102
75	.053	6.40	.063
80	.025	4.30	.029
85	.006	2.68	.006

Source: Hill, K. and H. Zlotnik, 1982 Op.cit. pp5.

Table A4: Computer Program for Estimating the Degree of Completeness of the Death Registration Data.

```
11.32.35_ NLIST TLM1
  1 C       PROGRAM TO CALCULATE THE COMPLETENESS OF THE DEATH
  2 C       REGISTRATION DATA IN ALL DISTRICTS OF KENYA
  3 C       TO DEFINE VARIABLES USED.
  4 C       A(I) IS AGE GROUP(YEARS)
  5 C       R(I) IS THE AGE SPECIFIC GROWTH RATE
  6 C       D(I) IS THE DEATHS IN AGE GROUP I
  7 C       NP(I) IS THE NEW POPULATION AT AGE (I) AFTER ESTIMATION
  8 C       EPOP(I) IS THE ESTIMATED POPULATION
  9 C      SEPOP(I) IS THE SUMM OF THE ESTIMATED POPULATION
 10 C      GP(I) IS THE GIVEN POPULATION IN AGE GROUP I
 11 C      GPOP(I) IS THE SUMM OF THE GIVEN POPULATION IN AGE GROUP I
 12 C      CPOP(I) IS THE COMPLETENESS OF DEATH REGISTRATION
 13 C      S IS THE NAME OF THE DISTRICT
 14 C
 15          LIST
 16          MASTER
 17          DO 400 J=1,41
 18     4    READ(1,45)S,SEX
 19    45    FORMAT(5X,2A8)
 20          WRITE(2,35)J,S,SEX
 21    35    FORMAT(//,15X,'3.4A.',I2,1X,2A8)
 22          DIMENSION IA(50),R(50),ID(50),NP(50),IEPOP(50),IGP(50)
 23          DIMENSION IGPOP(50), CPOP(50),ISEPOP(50)
 24          WRITE(2,30)
 25     30   FORMAT(1X,'AGE',2X,'GROWTH RATE',2X,'DEATH',2X,'GIVEN POP'
 26        1,2X,'NEW POP',2X,'POP EST',2X,'COMPLETE')
 27          WRITE(2,43)
 28     43   FORMAT(/,1X,'A',5X,'5RA',10X,'5DA',8X,'5NA',5X,'N1A',5X
 29        1,'5N1A',5X,'COMP')
 30     50   FORMAT(/,1X,I2,2X,F8.6,6X,I6,5X,I6,2X,I5)
 31          DO 6 I=1,13
 32          READ(1,10) IA(I),R(I),ID(I),IGP(I),NP(I)
 33     6    CONTINUE
 34          WRITE(2,50) IA(1),R(1),ID(1),IGP(1),NP(1)
 35          DO 5 I=1,12
 36    10    FORMAT(1X,I2,1X,F8.6,2X,I4,2X,I7,2X,I4)
 37          IF (I.EQ.12) GO TO 60
 38 C
 39          NP(I+1)=NP(I)*EXP(5.0*R(I+1))+ID(I+1)*EXP(2.5*R(I+1))
 40          NP(I+2)=NP(I+1)*EXP(5.0*R(I+2))+ID(I+2)*EXP(2.5*R(I+2))
 41          IEPOP(I+1)=2.5*(NP(I)+NP(I+1))
 42          IEPOP(I+2)=2.5*(NP(I+1)+NP(I+2))
 43          ISEPOP(I+1)=(IEPOP(I+1)+IEPOP(I+2))
 44          IGPOP(I+1)=IGP(I+1)+IGP(I+2)
 45          Z1=FLOAT(ISEPOP(I+1))
 46          Z2=FLOAT(IGPOP(I+1))
 47          CPOP(I+1)=Z1/Z2
 48 C
 49          WRITE(2,20)IA(I+1),R(I+1),ID(I+1),IGP(I+1),NP(I+1),IEPOP(I+1)
 50        1,CPOP(I+1)
 51     20   FORMAT(1X,I2,2X,F8.6,8X,I4,4X,I7,2X,I5,2X,I6,3X,F6.3)
 52     5    CONTINUE
 53          GO TO 80
 54     60   IEPOP(I+1)=2.5*(NP(I)+NP(I+1))
 55          IGPOP(I+1)=IGP(I+1)+IGP(I+2)
 56          WRITE(2,40)IA(I+1),R(I+1),ID(I+1),IGP(I+1),NP(I+1)
 57     40   FORMAT(1X,I2,2X,F8.6,8X,I4,4X,I7,1X,I6)
 58     80   CPOP(I+1)=Z1/Z2
 59    400   CONTINUE
 60          STOP OK
 61          END
 62          FINISH
```

Table A5: Computer Program for Constructing Life Tables from Incomplete Death Registration Data.

```
      MASTER
      DIMENSION IA(50),IGP(50),R(50),ID(50),SR(50),F(50),G(50),NPOP(50)
     1,QIAD(50),CPOP(50),SDIAD(50),S(50),NPOP(50),Q(50),IL(50)
     1,ISD(50),ISL(50),IT(50),EX(50)
      DO 4 J=1,3
      READ(1,18)J,SEX
   18 FORMAT(5X,I2,A4)
      WRITE(2,19)J,SEX
   19 FORMAT(//,5X,'J=',I2,1X,2A4)
      DO 6 I=1,16
      READ(1,10)IA(I),R(I),ID(I),IGP(I),CPOP(I)
   10 FORMAT(1X,I2,2X,F9.6,2X,I4,2X,I7,2X,F5.3)
      SDIAD(I)=ID(I)/(IGP(I)*CPOP(I))
    6 CONTINUE
      SR(1)=0
   85 DO 100 I=1,15
      SR(I+1)=SR(1)+R(I)
      F(I+1)=EXP(SR(I+1)+2.5*R(I+1))
      SDIAD(I)=ID(I)/(IGP(I)*CPOP(I))
      IF (I.GT.14) GO TO 95
      IF (I.GT.11)  GO TO 90
      GO TO 95
   90 DIAD(I+1)=ID(I+1)/IGP(I+1)
      G(I+1)=1.00-2.26*R(I+1)*DIAD(I+1)+0.219*R(I+1)-0.826*(R(I+1)**2)
   95 GO TO 100
  100 CONTINUE
      E(16)=EXP(-0.0951*R(16)/SDIAD(16))/SDIAD(16)
      NPOP(16)=ID(16)*EXP(R(16)*E(16))-(R(16)*E(16))**2/6
      DO 50 II=1,16
      I=16+1-II
      IF(I.GT.13.AND.I.LE.16) GO TO 23
      NPOP(I-1)=NPOP(I)*EXP(5.0*R(I-1))+ID(I-1)*EXP(2.5*R(I-1))
    9 P(I-1)=EXP(5*R(I-1))*NPOP(I)/NPOP(I-1)
      Q(I-1)=1-P(I-1)
      GO TO 49
   23 NPOP(I-1)=NPOP(I)*EXP(5*R(I-1))+G(I-1)*ID(I-1)*EXP(2.5*R(I-1))
      GO TO 9
   49 GO TO 50
   50 CONTINUE
      DO 38 I=1,16
      L(1)=100000
      ISD(I)=L(I)*Q(I)
      L(I+1)=L(I)-ISD(I)
      IF (I.EQ.16) GO TO 83
      ISL(I)=2.5*(L(I)+L(I+1))
   38 CONTINUE
      GO TO 84
   83 ISL(I)=L(I)*E(I)
      GO TO 38
   84 GO TO 87
   87 DO 97 II=1,16
      I=16+1-II
      IT(16)=ISL(16)
      IT(I-1)=ISL(I-1)+IT(I)
      EX(I)=FLOAT(IT(I))/FLOAT(L(I))
   97 CONTINUE
      WRITE(2,31)
   31 FORMAT(5X,'IA(I)',1X,'NPOP(I)',2X,'P(I)',3X,'Q(I)',4X,'ISD(I)',3X
     1,'L(I)',2X,'ISL(I)',4X,'IT(I)',2X,'EX(I)')
      DO 60 I=1,16
      WRITE(2,33)IA(I),NPOP(I),P(I),Q(I),ISD(I),L(I),ISL(I)
     1,IT(I),EX(I)
   33 FORMAT(8X,I2,2X,I5,2X,F6.4,2X,F6.4,2X,I5,2X,I6,2X,I6
     1,2X,I7,2X,F5.2)
   60 CONTINUE
    4 CONTINUE
      STOP OK
      END
      FINISH
11.43.11
      STOP OK
      END
      FINISH
11.43.11
```

Table A6 : Computer Program for Constructing Life Tables from the Successive Censuses' Data only

```
11.44.27_ NEXT OK)?
      1         LIBRARY(SUBSROUTINE/F)
      2         LIBRARY(SUBSROUTINE/SSP)
      3         LIBRARY(SUBSROUTINE/SCE)
      4         LIBRARY(SUBSROUTINE/RS)
      5         PROGRAM(PROG)
      6         COMPASS INTEGER AND LOGICAL
      7         EXTENDED DATA
      8         TRACE,2
      9         INPUT 1,5=CR0
     10         OUTPUT 2,6=LP0
     11         END
     12        MASTER
     13        REAL ISL,ITY
     14        DIMENSION IA(50),R(50),IPX(50),SR(50),YSR(50),RY(50) ,
     15       1,ISL(50),ITY(50),LY(50),EY(50),ISL1(50),ITY1(50)
     16         DO 58 L=1,43
     17         READ(1,43)S,SEX
     18    43   FORMAT(4X,2A8)
     19         WRITE(2,44)L,S,SEX
     20    44   FORMAT(4X,'4.48.',I2,1X,2A8)
     21         DO 100 I=1,16
     22         READ(1,10) IA(I),R(I),IPX(I)
     23    10   FORMAT(I2,2X,F8.6,2X,I7)
     24    100  CONTINUE
     25         DO 200 I=1,14
     26         SR(2)=0
     27         SR(1)=0
     28         SR(I+2)=SR(I+1)+5*R(I+1)
     29    200  CONTINUE
     30         DO 800 I=1,15
     31         YSR(I+1)=2.5*R(I+1)
     32    800  CONTINUE
     33         DO 850 I=1,14
     34         RY(1)=-2.5*R(I)
     35         RY(2)=2.5*R(2)
     36         RY(I+2)=SR(I+2)+YSR(I+2)
     37    850  CONTINUE
     38         DO 860 I=1,16
     39    40   ISL(I)=IPX(I)*EXP(RY(I))
     40    860  CONTINUE
     41         DO 300 I=1,15
     42         ITY(16)=ISL(16)
     43         ITY(16-I)=ITY(16-I+1)+ISL(16-I)
     44    300  CONTINUE
     45         DO 430 I=1,16
     46         LY(I+1)=(ISL(I)+ISL(I+1))/10
     47         EY(I+1)=ITY(I+1)/FLOAT(LY(I+1))
     48    430  CONTINUE
     49         WRITE(2,501)
     50    501  FORMAT(1X,'IA(I)',2X,'IPX(I)',2X,'R(I)',3X,'SR(I)',2X,'YSR(I)',2X
     51        1,'RY(I)',2X,'ISL(I)',4X,'ITY(I)',3X,'LY(I)',2X,'EY(I)')
     52          DO 900 I=1,16
     53         WRITE(2,500)IA(I),IPX(I),R(I),SR(I),YSR(I),RY(I),ISL(I),ITY(I)
     54        1,LY(I),EY(I)
     55    500  FORMAT(1X,I2,1X,I7,1X,F8.4,1X,F7.4,1X,F7.5,1X,F7.5,1X
     56        1,F9.0,1X,F9.0,1X,I6,1X,F6.2)
     57    900  CONTINUE
     58     58  CONTINUE
     59         STOP OK
     60         END
     61         FINISH
11.44.14_
```

Table A.7 : Computer Program for Population Projections

```
      MASTER
      REAL ISL,ITY,ISLN,ISLI,ISLX,ISLY,ISLU,ISLZ,ITYN,ITYI,ITYX,ITYY,
     1ITYU,ITYZ
      DIMENSION IA(50),R(50),IPX(50),SR(50),YSR(50),RY(50),TPOP(50)
     1,ISL(50),ITY(50),LY(50),EY(50),ISL1(50),ITY1(50),NPOP(50)
     1,IPOP(50),IXPOP(50),IYPOP(50),IZPOP(50),IUPOP(50)
      DO 7 J=1,42
      READ(1,29)S,SEX
   29 FORMAT(4X,2A8)
      WRITE(2,31)J,S,SEX
   31 FORMAT(/4X,'4.8A.',I2,1X,2A8)
      WRITE(2,61)
   61 FORMAT(9X,'1974',7X,'1980',6X,'1985',6X,'1990',6X,'1995',6X
     1,'2000',6X,'2005')
      DO 100 I=1,16
      READ(1,10) IA(I),R(I),IPX(I)
   10 FORMAT(I2,2X,F8.6,2X,I7)
  100 CONTINUE
      DO 613 I=1,16
      NPOP(I)=IPX(I)*EXP(6*R(I))
      IPOP(I)=NPOP(I)*EXP(5*R(I))
      IXPOP(I)=IPOP(I)*EXP(5*R(I))
      IYPOP(I)=IXPOP(I)*EXP(5*R(I))
      IZPOP(I)=IYPOP(I)*EXP(5*R(I))
      IUPOP(I)=IZPOP(I)*EXP(5*R(I))
  613 CONTINUE
      FORMAT(/5X,7(1X,F9.0))
      SUMN=0
      SUMP=0
      SUMX=0
      SUMY=0
      SUMZ=0
      SUMU=0
      SUMIP=0
      DO 200 I=1,14
      SR(2)=0
      SR(1)=0
      SR(I+2)=SR(I+1)+5*R(I+1)
  200 CONTINUE
      DO 763 I=1,16
      SUMN=SUMN+NPOP(I)
      SUMP=SUMP+IPOP(I)
      SUMX=SUMX+IXPOP(I)
      SUMY=SUMY+IYPOP(I)
      SUMZ=SUMZ+IZPOP(I)
      SUMU=SUMU+IUPOP(I)
      SUMIP=SUMIP+IPX(I)
  763 CONTINUE
      DO 89 I=1,16
      WRITE(2,65)IA(I),IPX(I),NPOP(I),IPOP(I),IXPOP(I),IYPOP(I),IZPOP(I)
     1,IUPOP(I)
   65 FORMAT(1X,I2,2X,7(1X,I9))
   89 CONTINUE
      WRITE(2,64)SUMIP,SUMN,SUMP,SUMX,SUMY,SUMZ,SUMU
      CONTINUE
      STOP OK
```

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