

KENYA 1999 POPULATION AND HOUSING CENSUS



REPUBLIC OF KENYA

**Analytical Report
on Mortality**

Volume 1



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Ministry of Finance and Planning
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Volume V Analytical Report on Mortality

**Central Bureau of Statistics
Ministry of Finance and Planning
August, 2002**

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List of Abbreviations

AIDS	Acquired Immunodeficiency Syndrome
ASMR	Age-Specific Mortality Rate
CBS	Central Bureau of Statistics
CD	Children Dead
CEB	Children Ever Born
DFID	Department for International Development
EA	Enumeration Area
HIV	Human Immunodeficiency Virus
IMR	Infant Mortality Rate
KDHS	Kenya Demographic and Health Survey
NPPSD	National Population Policy for Sustainable Development
U5MR	Under-5 Mortality Rate
UNDP	United Nations Development Programme
UNFPA	United Nations Population Fund
USAID	United States Agency for International Development

Foreword

The Kenya 1999 Population and Housing Census was the fourth to be carried out since independence and the sixth since 1948 when the first census was conducted in Kenya. It was carried out on a de facto basis with the night of 24/25 August being taken as a reference date under the provision of the Statistics Act (Cap. 112) of the Laws of Kenya and Legal Notice No. 121 of 11 September 1998 and amendment No. 25 of 22 February 1999.

The main objective of this census was to collect demographic and socio-economic data required for policy formulation and decision making in planning processes. This objective was emphasised by the 1999 census theme, "Counting Our People for Development". Basic results of the 1999 census were published in Volumes I and II in January 2001. This second set comprising nine analytical reports addresses topics of fertility and nuptiality, mortality, migration and urbanisation, population projections, education, labour force, housing and gender dimensions. Highlights of the demographic indicators are presented in the Population Dynamics monograph.

Preparation of the analytical monographs involved collaborative efforts of both local and external experts, the Population Studies and Research Institute (PSRI), and various government ministries and departments. The monographs were authored under supervision of a lead consultant. The authors and consultants were recruited on competitive basis, ensuring that such persons had adequate knowledge of the subject they were to analyse and were familiar with Kenya demographic data. For the first time, university students in demography were attached to lead monograph authors.

Scanning technology was used for the first time to capture census data. This method reduced the data processing period to a record 6 months. In an effort to achieve internal consistency and minimise errors to acceptable levels, rigorous editing and validation of the data were carried out before analysing the results. The information presented in these reports is therefore based on more cleaned data sets, and is to be preferred in case there are differences in the results published in Volumes I and II.

This monograph presents mortality estimates generated from 1999 census data by use of indirect methods of estimation that were largely developed by Brass. All indicators point at a rise in mortality between 1989 and 1999. Infant mortality increased from 70 to about 77 per 1,000 live births between the 1979-89 and 1989-99 intercensal periods. Similarly, under-5 mortality increased from 113 to 116 per 1,000 live births over the same period. After improving from 54 years to 60 years within the previous two decades, expectation of life at birth declined by 7% for males and 17% for females during the 1990s. This situation is largely explained by the high HIV/AIDS prevalence rates and the deepening poverty.

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Acknowledgement

The Kenya 1999 Population and Housing Census, with the theme "counting our people for development", was conducted in August 1999. It was the sixth national census, after those conducted in 1948, 1962, 1969, 1979 and 1989. Provisional results were released in February 2000, and basic reports were subsequently released in two volumes in January 2001 after a rigorous data processing exercise. This monograph is one of the nine that are a culmination of an ambitious, synchronised and all-inclusive in-depth analysis process addressing various topical areas regarding the demographic, social and economic profiles of the Kenyan population.

The census, being an enormous, complex and costly operation, was accomplished through concerted efforts of many organisations, institutions, government ministries and individuals who assisted in a variety of ways to prepare, collect, compile, process, analyse and publish the results. The Government of Kenya, through the Central Bureau of Statistics of the Ministry of Finance and Planning, wishes to thank them all for their inputs into this noble process.

The Government extends sincere gratitude to the development partners, particularly United Nations Population Fund (UNFPA), United Nations Development Programme (UNDP), United States Agency for International Development (USAID) and the Department for International Development (DFID) for providing technical and/or financial support. Very special thanks are extended to UNFPA and DFID for providing further technical and financial support for the compilation and dissemination of the nine monographs, and also to USAID, in collaboration with the United States Bureau of the Census, for supporting further data processing and the compilation of two sets of United Nations style tables and a census data sheet.

Further gratitude is due to the authors of the nine monographs, the technical support staff and other national and international professionals for their commitment and tireless efforts to successfully undertake the in-depth analysis exercise. Fast but not least, all Kenyans deserve special thanks for their patience and willingness to provide the requisite information.

We sincerely hope that the data contained in this monograph will be fully utilised in the national development planning process by all stakeholders for the welfare of the people of Kenya.

David S.O. Nalo
Director of Statistics
Central Bureau of Statistics

Executive Summary

In order to satisfy the ever-increasing demand for demographic estimates, the Central Bureau of Statistics undertook the 1999 Population and Housing Census. One of the objectives of this census was to collect information that would be used to determine levels, trends and differentials of mortality.

Mortality estimates derived from census data are expected to be useful in monitoring the implementation of the current population policy which has outlined a number of targets aimed at reducing mortality, especially infant and child mortality. Indirect methods of estimation, largely developed by Brass (with various modifications through time), were used to generate mortality estimates from the 1999 census data. However, the analysis proved difficult because of two new problems. The first concerned the quality of data on child mortality that was compromised through the misreading of data by the scanner. The second pertained to the effect of HIV/AIDS on the indirect estimates of child and adult mortality. Estimation of both child and adult mortality is based on different age patterns of mortality from those found in populations experiencing an HIV/AIDS epidemic. This created the need for some form of adjustments on the age patterns.

The declining trend in child mortality experienced during the previous censuses has been reversed. All indices of child mortality point to an upturn in mortality. Even with increasing mortality, regional disparities still persist: for example, Homa Bay district had in excess of 200 children dying before their fifth birthday as compared to 52 in Nyeri district.

Similarly, indicators of adult mortality reflect a rise during the 1989-99 intercensal period. While gains in the expectation of life at birth have been recorded during the previous censuses, there was a decline in this indicator for both sexes during the 1989-99 intercensal period. Pockets of low expectation of life at birth were prominent in Coast, Nyanza and Western provinces.

Like other mortality indicators, the infant mortality rate (IMR) increased (from 66 to 68 per 1,000 live births) between the 1979-89 and 1989-99 intercensal periods. While similar increases were noted at district level, regional variations persisted—the highest IMR of 147 in Suba district as compared to the lowest of 26 in Nyeri district.

The increase in all estimates of mortality presents serious policy implications when considered against the goals and targets set out by the current population policy. Addressing the gloomy mortality situation will require concerted efforts in a number of areas, including the reduction of HIV prevalence rates, poverty alleviation aimed at increasing the proportion of people with access to quality health and education, and minimising the current regional disparities in mortality.

Chapter 1

Background

1.1 Introduction

The need for demographic data in the development process cannot be over-emphasised. Under the provisions of the Statistics Act (Cap. 112) of the Laws of Kenya, the Central Bureau of Statistics (CBS) is mandated to collect, analyse and disseminate data on varied aspects of the population in Kenya. In line with this mandate, the National Development Plan (1997-2001) states that "Availability of timely and reliable information is crucial for decision making in both the public and private sectors, especially in a liberalised economy ... CBS will help institutions to collect and analyse various types of data".

In fulfilling one of its roles, the CBS, under Legal Notice No. 121 of 11 September 1998, undertook the 1999 Population and Housing Census with the midnight of 24/25 August as the reference date. In line with the previous five censuses, this census was conducted on a de facto basis. The census objectives were to:

- Provide information on the size, composition and distribution of the population;
- Collect information that will be used to determine levels, trends and differentials of fertility, mortality and migration;
- Collect information that will ascertain the rate and pattern of urbanisation;
- Provide information on the size and composition of the labour force;
- Provide information on the level of education attained; and
- Provide information on the housing conditions and availability of social amenities.

Appendix 1 shows the questionnaire used to collect data during the census. This volume focuses on the analysis of data on mortality. It is expected that results from this analysis will be of assistance for effective decision making but, more importantly, in the implementation and monitoring of the National Population Policy for Sustainable Development.

1.2 Review of Mortality Trends in Kenya

Important progress has been made in reducing childhood mortality globally, although improvements have been relatively slower in sub-Saharan Africa. While the HIV/AIDS epidemic threatens to reverse 30 years of child mortality reductions in sub-Saharan Africa, a number of other socio-economic problems may also be threatening improvements in child survival. The 1980s witnessed a deterioration of socio-economic conditions in many African countries resulting in a persistent decline in economic activity, social welfare and living standards. These conditions have impacted

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negatively on the reduction in childhood mortality.

Trends in childhood mortality levels in Kenya have largely mirrored changes in the macro-economic conditions of the country. While Kenyans enjoyed an impressive and sustained decline in childhood mortality during the period 1965-80, the decline was slower in the 1980s. The 1998 Kenya Demographic and Health Survey (KDHS) provided the first clear evidence that the decline had not only slowed but had been reversed during the 1990s. As Table 1.1 shows, estimates of childhood mortality from other sources are in support of the upturn in mortality.

Table 1.1 Mortality Trends by Various Data Sources

Mortality Indicator	1962 Census	1969 Census	1979 Census	1989 Census	1989 KDHS	1993 KDHS	1998 KDHS
IMR	.	119	88	66	63	62	71
U5MR	219	190	157	125	.	93	105
Male e_0	.	46.9	52.0	57.5	.	.	.
Female e_0	.	51.2	55.1	61.4	.	.	.

- = Data unavailable

There are a number of potentially adverse developments that have coincided with the upturn in childhood mortality. After several decades of growth, per capita income stagnated in the 1980s. Impressive gains in levels of education were not sustained, and improvements in public health measures, particularly immunisation levels, also levelled out or were reversed. Then the late 1980s and early 1990s saw the emergence of HIV/AIDS as a major public health factor.

Differences in childhood mortality among geographic regions of a country are a very important factor for regional planning. Data from both the 1989 census and 1998 KDHS show the existence of enormous differentials in childhood mortality by province of mother's residence. The 1989 census data reveal that the chance of dying before age 5 was about four times (six times in the KDHS) higher in Nyanza province than in Central province.

Far less is known about levels and trends in adult mortality in the Africa region than about childhood mortality. One reason for the shortage of data on adult mortality is that measuring it is more difficult than measuring childhood mortality. While census data indicate a decline in adult mortality between 1969 and 1989 (a drop of about 5% in the 1970s and 18% in the 1980s), the 1998 KDHS documented a rise in adult mortality attributed to the HIV/AIDS epidemic.

1.3 Quality of Census Data

The 1999 census questionnaire collected information both on child and adult mortality.

1.3.1 Quality of Census Data on Child Mortality

Using columns P40 through P47 on the questionnaire, data were collected from all women aged 12 years and above on particulars of all live births. This information yielded the number of children ever born (CEB) and the number of children dead (CD). Over the years, the rate of non-response on CEB has declined from 19.2% in the 1989 census to 6.3% during the 1999 census. This problem existed in all provinces, with the highest rate (7.4%) in Nyanza and the lowest (5.1 %) in Western as shown in Table 1.2.

When broken down by age, the data suggest that the younger the females, the higher the rate of non-response on CEB. For example, the youngest two age groups accounted for about 62% of the non-response. Although this problem has persisted since the 1989 census, it is less probable that

Table 1.2 Parity Not Stated by Province, 1999

Kenya	Women	No.	%	N/Eastern	Women	No.	%
15-19	1,708,069	135,944	40.9	15-19	48,854	3,897	41.5
20-24	1,501,066	74,481	22.4	20-24	32,823	2,092	22.4
25-29	1,200,002	43,811	13.2	25-29	29,760	1,114	11.9
30-34	845,581	28,905	8.7	30-34	25,703	937	10.0
35-39	726,307	22,724	6.8	35-39	19,359	616	6.6
40-44	518,249	15,041	4.5	40-44	16,247	515	5.5
45-49	421,170	11,794	3.5	45-49	7,741	211	2.2
Total	6,920,444	322,700	4.8	Total	180,487	9,391	5.2
Nairobi				Nyanza			
15-19	123,999	11,113	25.9	15-19	281,019	24,019	46.5
20-24	169,447	12,433	29.0	20-24	225,982	11,398	21.3
25-29	133,722	8,506	19.9	25-29	170,517	5,665	10.6
30-34	77,951	4,811	11.2	30-34	124,369	3,911	7.3
35-39	53,710	3,068	7.2	35-39	114,798	3,389	6.3
40-44	32,101	1,711	4.0	40-44	85,258	2,372	4.4
45-49	21,741	1,184	2.8	45-49	70,628	1,955	3.6
Total	612,671	42,826	7.0	Total	1,072,571	53,604	5.0
Central				Rift Valley			
15-19	221,172	16,324	38.0	15-19	402,772	34,160	43.6
20-24	194,669	9,391	21.9	20-24	355,502	17,375	22.2
25-29	167,958	5,925	13.8	25-29	281,760	9,623	12.3
30-34	128,156	4,252	9.9	30-34	192,203	6,250	8.0
35-39	105,544	3,291	7.7	35-39	169,248	5,186	6.6
40-44	67,432	2,017	4.7	40-44	114,361	3,268	4.2
45-49	60,489	1,752	4.1	45-49	93,223	2,566	3.3
Total	945,420	42,952	4.5	Total	1,609,069	78,428	4.9
Coast				Western			
15-19	141,948	9,948	38.6	15-19	204,122	16,587	50.3
20-24	1318,182	6,037	23.4	20-24	160,431	6,097	18.5
25-29	111,614	3,793	14.7	25-29	120,775	3,326	10.1
30-34	71,769	2,173	8.4	30-34	93,716	2,435	7.4
35-39	61,426	1,620	6.3	35-39	82,693	1,998	6.1
40-44	48,930	1,288	5.0	40-44	65,368	1,435	4.3
45-49	37,558	922	3.6	45-49	52,290	1,127	3.4
Total	611,427	25,781	4.2	Total	779,395	33,005	4.2
Eastern							
15-19	284,183	19,001	40.1				
20-24	224,030	9,649	20.7				
25-29	183,896	5,859	12.5				
30-34	131,714	4,136	8.9				
35-39	119,529	3,556	7.6				
40-44	88,552	2,435	5.2				
45-49	77,500	2,076	4.4				
Total	1,109,404	46,712	4.2				

the majority of these cases were actually non-responses given that responses from younger women are less affected by memory lapse. The most probable explanation has more to do with women of zero parity being misclassified under the category of "not stated".

Because the number of births varies with the age of women, some control on the maximum number of CEB permissible by age was introduced. This control was applied to the number of CEB by women below age 40 years as indicated below.

Age Group	12-15	16-19	20-22	23-25	26-28	29-31	32-35	36-37	38-39	
Max. no. o f CEB		1	2	3	4	5	6	7	8	9

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This control was used to impute those cases whose number of CEB exceeded the maximum number permissible in each respective age group. The level of imputation stood at 4% from a total of 6,512,944 women.

Supplementary information on child mortality was collected in columns IMS through P51 on particulars of the last live birth from the same women.

Apart from the usual problem of under-reporting of infant deaths, age misreporting and wrong dating of deaths, a new problem of misreading entries on the questionnaire was introduced by the scanner during data processing. Although no sections of the census questionnaire were immune from these errors, some were more vulnerable than others, and in particular column P47, so that the numbers of dead female children were seriously inflated.

1.3.2 Quality of Census Data on Adult Mortality

Data on orphanhood were collected in columns P20 and P21 whereby all persons were asked about the survival status of their parents. Unlike the data on child mortality, data on orphanhood were of very high quality such that the proportions of respondents with parent alive agreed perfectly with similar proportions using projections from the 1989 census.

1.4 General Methodology

The fact that mortality rates differ by age necessitates using different methods to analyse each of the three categories involved: child mortality, adult mortality and life tables. While the details of each method are given in their respective topics, the overall approach adopted in the analysis is outlined below.

Because of the various content errors during reporting and data processing, indirect techniques of estimation were used. Type of method used is largely determined by the type of data available. To estimate child mortality, the Brass method was used. Using data on children ever born and children dead, this method not only generates proportions of children dead, but also converts these proportions into probabilities of dying by various ages.

The only data set available to estimate adult mortality was on orphanhood. Apart from generating proportions of respondents with surviving parents, another method by Brass was employed to derive life table survivorship probabilities, i.e., probabilities of surviving from a given fixed age to different older ages.

To get a complete picture of the mortality situation, the final part of the analysis involved linking child mortality to adult mortality leading to the construction of a complete life table of the population. The Brass two-parameter logit life table system was used to generate the life tables.

Chapter 2

Child Mortality

2.1 Data on Child Mortality

Responses from women aged 12 years and above on particulars of all live births yielded data on children ever born (CEB). The same questionnaire asked for particulars of the last live birth from the women. Using the data of the last live birth, data on recent births (0-12 months and 12-24 months before the census) were generated. Separately, these two data sets were used to estimate child mortality.

2.2 Proportions of Children Dead

Using information on CEB and children dead, proportions of children dead by age of mother were computed. These are compared to those obtained from earlier censuses as shown in Table 2.1.

Table 2.1 Proportions of Children Dead: 1962, 1969, 1979, 1989 and 1999

Age Group of Mother	Proportions of Children Dead					% Change			
	1962	1969	1979	1989	1999	62-69	69-79	79-89	89-99
15-19	0.146	0.128	0.116	0.111	0.117	-12.3	-9.4	-4.3	5.4
20-24	0.170	0.147	0.125	0.104	0.108	-13.5	-15.0	-16.8	3.8
25-29	0.205	0.174	0.141	0.108	0.099	-15.1	-19.0	-23.4	-8.3
30-34	0.238	0.202	0.166	0.126	0.110	-15.1	-17.8	-24.1	-12.7
35-39	0.269	0.231	0.185	0.139	0.118	-14.1	-19.9	-24.9	-15.1
40-44	0.308	0.263	0.217	0.165	0.139	-14.6	-17.5	-24.0	-15.8
45-49	0.338	0.304	0.253	0.186	0.156	-10.1	-16.8	-26.5	-16.1
Average						-13.6	-16.5	-20.6	-8.4

There was a steady decline in child mortality between the 1962 and 1989 censuses. During the 1989-99 intercensal period, this trend was reversed, especially for children of younger mothers whose mortality had increased by about 5% over the 1989 levels. Although the increased deaths may have been caused by a multiplicity of factors, there is a high likelihood that HIV/AIDS was the major contributor.

2.3 Regional Differentials in Proportions of Children Dead

Table 2.2 shows the proportions of children dead from 1969 to 1999. During the 20-year period between 1969 and 1989, there was a consistent decline in the proportions of children dead in all the provinces. However, during the 1989-99 intercensal period, the tempo of the decline in the propor-

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tions of children dead drastically declined. The overall picture in most of the districts reflects a declining tempo in the reduction of the proportions of children dead during the 1989-99 intercensal period. Some districts show a reverse in the declines of the proportions of children dead during the intercensal period. In fact, these districts had an increase in the proportions of child deaths. Notable among such districts are Nyandarua, Nairobi, Nyeri, Siaya, Kericho, Laikipia and Samburu. In a few districts, however, we see a consistent decline in the proportions of children dead during the 1989-1999 period. These include Kajiado, Garissa, Turkana and West Pokot.

Table 2.2 Proportions of Children Dead by District, 1969-1999

PROVINCE/ District	Year	15-19	20-24	Age Group of Mother					Ave.	% change
				25-29	30-34	35-39	40-44	45-49		
KENYA	1969	0.128	0.147	0.174	0.202	0.231	0.263	0.304	0.207	
	1979	0.116	0.125	0.141	0.166	0.185	0.217	0.253	0.172	-16.9
	1989	0.111	0.104	0.108	0.126	0.139	0.165	0.186	0.134	-21.9
	1999	0.117	0.108	0.099	0.110	0.118	0.139	0.156	0.121	-9.6
NAIROBI	1969	0.078	0.096	0.112	0.127	0.146	0.164	0.175	0.128	
	1979	0.099	0.093	0.093	0.100	0.116	0.146	0.161	0.115	-10.0
	1989	0.097	0.088	0.081	0.081	0.084	0.097	0.116	0.092	-20.3
	1999	0.114	0.102	0.082	0.087	0.091	0.099	0.104	0.097	5.3
CENTRAL	1969	0.069	0.086	0.109	0.139	0.170	0.201	0.245	0.146	
	1979	0.066	0.063	0.076	0.094	0.112	0.142	0.175	0.104	-28.5
	1989	0.064	0.050	0.050	0.059	0.067	0.086	0.104	0.069	-34.1
	1999	0.104	0.068	0.051	0.057	0.060	0.067	0.079	0.069	0.7
Kiambu	1969	0.068	0.092	0.100	0.133	0.161	0.187	0.215	0.137	
	1979	0.065	0.067	0.074	0.088	0.105	0.129	0.159	0.098	-28.1
	1989	0.073	0.062	0.059	0.067	0.067	0.085	0.098	0.073	-25.6
	1999	0.113	0.071	0.054	0.061	0.063	0.065	0.078	0.072	-1.2
Kirinyaga	1969	0.085	0.107	0.142	0.192	0.225	0.289	0.322	0.195	
	1979	0.065	0.077	0.106	0.133	0.154	0.192	0.231	0.137	-29.7
	1989	0.067	0.054	0.058	0.075	0.088	0.114	0.137	0.085	-38.1
	1999	0.100	0.076	0.058	0.066	0.071	0.079	0.095	0.078	-8.4
Maragua Murang'a	1999	0.089	0.064	0.051	0.054	0.057	0.070	0.082	0.067	
	1969	0.071	0.109	0.127	0.151	0.185	0.217	0.274	0.162	
	1979	0.068	0.065	0.080	0.101	0.125	0.157	0.190	0.112	-30.7
	1989	0.057	0.044	0.051	0.058	0.069	0.091	0.115	0.069	-38.3
Nyandarua	1999	0.093	0.060	0.046	0.052	0.052	0.061	0.077	0.063	-8.7
	1969	0.064	0.062	0.101	0.120	0.169	0.213	0.246	0.139	
	1979	0.057	0.064	0.074	0.095	0.108	0.131	0.173	0.100	-28
	1989	0.052	0.044	0.045	0.052	0.063	0.082	0.097	0.062	-38
Nyeri	1999	0.101	0.062	0.049	0.054	0.060	0.067	0.082	0.068	9.4
	1969	0.053	0.053	0.085	0.103	0.130	0.172	0.214	0.116	
	1979	0.044	0.046	0.056	0.071	0.086	0.113	0.148	0.081	-30.4
	1989	0.063	0.037	0.035	0.043	0.050	0.066	0.080	0.053	-33.7
Thika	1999	0.102	0.064	0.044	0.060	0.057	0.058	0.066	0.064	21.6
	1999	0.125	0.079	0.059	0.064	0.073	0.079	0.086	0.081	
	1969	0.164	0.187	0.201	0.238	0.250	0.280	0.295	0.231	
	1979	0.165	0.175	0.188	0.217	0.232	0.263	0.286	0.218	-5.5
COAST	1989	0.121	0.125	0.136	0.162	0.178	0.209	0.230	0.166	-23.9
	1999	0.120	0.117	0.114	0.127	0.143	0.172	0.191	0.141	-15.1
	1969	0.212	0.216	0.224	0.271	0.264	0.304	0.322	0.259	
	1979	0.195	0.211	0.226	0.261	0.274	0.306	0.324	0.257	-0.9
Kilifi	1989	0.118	0.134	0.157	0.188	0.208	0.243	0.258	0.187	-27.3
	1999	0.139	0.128	0.124	0.138	0.161	0.197	0.218	0.164	-12.3
	1969	0.161	0.192	0.22	0.243	0.284	0.287	0.303	0.241	
	1979	0.175	0.190	0.212	0.232	0.247	0.28	0.299	0.234	-3.3
Kwale	1989	0.143	0.141	0.158	0.180	0.201	0.230	0.250	0.186	-20.3
	1999	0.139	0.140	0.139	0.153	0.174	0.194	0.219	.0170	-8.6

Table 2.2 Proportions of Children Dead by District, 1969-1999 (continued)

PROVINCE/ District	Year	Age Group of Mother							Ave.	% change
		15-19	20-24	25-29	30-34	35-39	40-44	45-49		
Lamu	1969	0.185	0.157	0.190	0.167	0.207	0.240	0.228	0.196	
	1979	0.164	0.196	0.185	0.211	0.230	0.248	0.255	0.213	-8.4
	1989	0.140	0.106	0.143	0.154	0.177	0.200	0.228	0.164	-22.9
	1999	0.127	0.108	0.116	0.116	0.131	0.144	0.177	0.134	-18.3
Mombasa	1969	0.124	0.145	0.164	0.185	0.188	0.204	0.203	0.173	
	1979	0.118	0.120	0.131	0.151	0.166	0.188	0.204	0.154	-11.1
	1989	0.114	0.110	0.105	0.121	0.127	0.15	0.167	0.128	-17.1
	1999	0.089	0.095	0.087	0.094	0.101	0.116	0.134	0.101	-21.2
Taita	1969	0.161	0.181	0.185	0.247	0.266	0.322	0.352	0.245	
Taveta	1979	0.118	0.112	0.130	0.152	0.175	0.219	0.261	0.167	-31.9
	1989	0.075	0.086	0.088	0.105	0.124	0.153	0.182	0.116	-30.3
	1999	0.113	0.099	0.088	0.101	0.110	0.121	0.142	0.113	-2.6
Tana	1969	0.026	0.209	0.176	0.206	0.174	0.220	0.167	0.168	
River	1979	0.186	0.176	0.177	0.208	0.222	0.247	0.281	0.214	27.2
	1989	0.117	0.130	0.144	0.163	0.184	0.203	0.229	0.167	-21.8
	1999	0.122	0.129	0.133	0.147	0.155	0.185	0.197	0.157	-6.0
Malindi	1999	0.116	0.113	0.113	0.135	0.147	0.188	0.200	0.149	
EASTERN	1969	0.104	0.135	0.156	0.179	0.201	0.237	0.269	0.183	
	1979	0.088	0.095	0.114	0.143	0.162	0.189	0.231	0.146	-20.2
	1989	0.067	0.063	0.071	0.063	0.104	0.136	0.156	0.098	-32.9
	1999	0.080	0.074	0.070	0.079	0.086	0.101	0.117	0.087	-11.2
Embu	1969	0.092	0.121	0.144	0.17	0.203	0.271	0.293	0.185	
	1979	0.067	0.078	0.098	0.125	0.147	0.178	0.204	0.128	-30.7
	1989	0.056	0.056	0.060	0.074	0.092	0.120	0.144	0.086	-32.9
	1999	0.072	0.062	0.051	0.059	0.061	0.067	0.074	0.063	-26.7
Isiolo	1969	0.173	0.223	0.207	0.241	0.229	0.261	0.293	0.232	
	1979	0.116	0.123	0.143	0.177	0.197	0.225	0.246	0.175	-24.5
	1989	0.113	0.100	0.108	0.144	0.155	0.191	0.222	0.148	-32.1
	1999	0.105	0.098	0.091	0.113	0.120	0.141	0.167	0.121	-18.2
Kitui	1969	0.113	0.164	0.191	0.23	0.256	0.296	0.332	0.226	
	1979	0.136	0.143	0.164	0.193	0.214	0.249	0.279	0.197	-5.8
	1989	0.084	0.087	0.107	0.127	0.15	0.188	0.211	0.136	-34.1
	1999	0.093	0.100	0.096	0.112	0.124	0.145	0.164	0.125	-8.1
Makueni	1999	0.087	0.068	0.064	0.077	0.080	0.098	0.116	0.086	
Machakos	1969	0.105	0.132	0.166	0.171	0.195	0.228	0.267	0.180	
	1979	0.083	0.092	0.108	0.135	0.154	0.177	0.201	0.136	-21.2
	1989	0.066	0.062	0.069	0.080	0.097	0.124	0.145	0.092	-34.7
	1999	0.058	0.061	0.061	0.065	0.072	0.091	0.107	0.078	-15.2
Marsabit	1969	0.061	0.190	0.172	0.16	0.154	0.221	0.152	0.159	
	1979	0.102	0.125	0.134	0.146	0.164	0.179	0.197	0.150	-20.1
	1989	0.084	0.077	0.072	0.092	0.107	0.122	0.136	0.099	-33.2
	1999	0.099	0.069	0.066	0.077	0.090	0.096	0.120	0.087	-12.1
Mbeere	1999	0.052	0.065	0.061	0.059	0.072	0.082	0.108	0.076	
Meru	1969	0.099	0.116	0.121	0.155	0.170	0.195	0.230	0.155	
Central	1979	0.068	0.073	0.095	0.123	0.140	0.166	0.192	0.122	-21.3
	1989	0.054	0.047	0.053	0.070	0.086	0.115	0.135	0.080	-34.4
	1999	0.093	0.075	0.060	0.066	0.070	0.077	0.086	0.073	-8.8
Moyale	1999	0.091	0.086	0.091	0.115	0.123	0.171	0.172	0.126	
Mwingi	1999	0.100	0.108	0.111	0.116	0.133	0.156	0.183	0.136	
Meru North	1999	0.068	0.056	0.052	0.061	0.067	0.077	0.091	0.067	
Tharaka	1999	0.091	0.114	0.111	0.114	0.136	0.155	0.172	0.136	
Meru South	1999	0.153	0.089	0.071	0.069	0.073	0.074	0.088	0.078	
NORTH EASTERN	1969	0.165	0.151	0.154	0.193	0.203	0.212	0.217	0.185	
	1979	0.113	0.127	0.138	0.167	0.172	0.202	0.208	0.161	-12.9
	1989	0.122	0.120	0.126	0.140	0.144	0.175	0.192	0.146	-9.6
	1999	0.122	0.099	0.096	0.106	0.109	0.127	0.129	0.113	-22.6
Garissa	1969	0.111	0.156	0.146	0.188	0.210	0.215	0.228	0.179	
	1979	0.111	0.124	0.136	0.168	0.171	0.210	0.207	0.161	-10.1
	1989	0.130	0.128	0.131	0.137	0.149	0.172	0.187	0.148	-8.3
	1999	0.115	0.102	0.103	0.104	0.109	0.124	0.125	0.111	-25.0

Kenya 1999 Population and Housing Census

Table 2.2 Proportions of Children Dead by District, 1969-1999 (continued)

PROVINCE/ District	Year	Age Group of Mother						Ave.	% change
		15-19	20-24	25-29	30-34	35-39	40-44		
Mandera	1969	0.138	0.129	0.136	0.165	0.171	0.168	0.177	0.155
	1979	0.121	0.137	0.142	0.166	0.164	0.193	0.212	0.162 4.7
	1989	0.105	0.118	0.125	0.141	0.143	0.174	0.179	0.141 -13.2
	1999	.127	0.094	0.101	0.113	0.118	0.134	0.140	0.118 -16.3
Wajir	1969	0.274	0.166	0.175	0.226	0.231	0.258	0.254	0.226
	1979	0.109	0.122	0.137	0.167	0.178	0.203	0.207	0.160 -29.1
	1989	0.134	0.114	0.121	0.141	0.139	0.180	0.210	0.148 -7.5
	1999	0.125	0.100	0.088	0.103	0.102	0.123	0.122	0.106 -28.4
NYANZA	1969	0.185	0.210	0.246	0.281	0.316	0.360	0.404	0.286
	1979	0.151	0.172	0.203	0.238	0.259	0.296	0.337	0.237 -17.3
	1989	0.169	0.169	0.170	0.192	0.215	0.248	0.275	0.205 -13.2
	1999	0.161	0.173	0.167	0.183	0.188	0.218	0.248	0.191 -6.8
Gucha	1999	0.140	0.109	0.117	0.128	0.139	0.155	0.162	0.136
Homa Bay	1999	0.210	0.236	0.237	0.243	0.259	0.295	0.336	0.265
Kisii	1969	0.088	0.127	0.167	0.186	0.204	0.241	0.291	0.186
Central	1979	0.077	0.098	0.122	0.149	0.164	0.194	0.226	0.147 -21.1
	1989	0.086	0.089	0.097	0.116	0.13	0.157	0.174	0.121 -17.6
	1999	0.114	0.094	0.093	0.110	0.123	0.146	0.164	0.122 +0.8
	1969	0.208	0.234	0.226	0.297	0.34	0.376	0.417	0.305
Kisumu	1979	0.181	0.198	0.23	0.264	0.291	0.339	0.375	0.268 -12.2
	1989	0.195	0.195	0.202	0.216	0.242	0.272	0.312	0.233 -13
	1999	0.176	0.190	0.183	0.196	0.211	0.235	0.270	0.213 -8.6
	1999	0.166	0.156	0.156	0.161	0.159	0.182	0.200	0.167
Kuria	1999	0.206	0.236	0.232	0.238	0.244	0.274	0.309	0.252
Migori	1999	0.046	0.050	0.051	0.062	0.073	0.091	0.107	0.071
Nyamira	1999	0.155	0.189	0.191	0.204	0.215	0.243	0.277	0.219
Rachuonyo	1969	0.190	0.254	0.275	0.323	0.355	0.405	0.438	0.320
Siaya	1979	0.172	0.207	0.239	0.280	0.309	0.340	0.380	0.275 -14
	1989	0.200	0.206	0.210	0.227	0.253	0.287	0.316	0.243 -11.8
	1999	0.213	0.229	0.227	0.232	0.242	0.269	0.303	0.253 +4.1
	1999	0.233	0.250	0.234	0.244	0.245	0.275	0.307	0.257
Suba	1999	0.147	0.198	0.206	0.206	0.214	0.235	0.274	0.221
Bondo	1999	0.177	0.199	0.199	0.219	0.225	0.260	0.269	0.234
Nyando	1969	0.098	0.106	0.134	0.153	0.170	0.207	0.218	0.155
RIFT	1979	0.092	0.106	0.123	0.143	0.158	0.183	0.207	0.145 -6.7
VALLEY	1989	0.081	0.079	0.087	0.107	0.121	0.142	0.161	0.111 -23.1
	1999	0.090	0.078	0.073	0.085	0.094	0.112	0.129	0.095 -14.8
	1969	0.105	0.143	0.177	0.209	0.190	0.245	0.245	0.188
	1979	0.158	0.166	0.176	0.202	0.211	0.244	0.268	0.204 8.5
Baringo	1989	0.108	0.091	0.103	0.141	0.163	0.187	0.213	0.144 -29.4
	1999	0.109	0.086	0.080	0.103	0.113	0.146	0.178	0.116 -19.1
	1999	0.072	0.055	0.053	0.060	0.070	0.078	0.098	0.069
	1999	0.063	0.057	0.054	0.064	0.070	0.101	0.107	0.074
Bo met	1969	0.110	0.102	0.102	0.142	0.121	0.108	0.137	0.117
Keiyo	1979	0.112	0.121	0.138	0.157	0.177	0.193	0.204	0.157 34
	1989	0.090	0.071	0.087	0.114	0.137	0.168	0.188	0.122 -22.4
	1999	0.087	0.060	0.054	0.073	0.086	0.109	0.133	0.086 -29.5
	1969	0.069	0.089	0.087	0.021	0.156	0.140	0.194	0.122
Kajiado	1979	0.063	0.075	0.083	0.096	0.112	0.134	0.140	0.100 -18
	1989	0.061	0.063	0.075	0.079	0.087	0.103	0.112	0.112 -17.5
	1999	0.082	0.076	0.064	0.074	0.084	0.091	0.098	0.081 -27.4
	1969	0.091	0.081	0.120	0.122	0.125	0.198	0.200	0.134
Kericho	1979	0.078	0.900	0.106	0.122	0.134	0.157	0.174	0.123 -8.1
	1989	0.074	0.740	0.079	0.093	0.100	0.119	0.131	0.096 -22.2
	1999	0.105	0.085	0.079	0.090	0.103	0.118	0.131	0.102 5.8
	1999	0.074	0.067	0.059	0.061	0.076	0.096	0.108	0.077
Koibatek	1969	0.043	0.105	0.114	0.132	0.191	0.221	0.189	0.142
Laikipia	1979	0.068	0.075	0.090	0.102	0.124	0.144	0.184	0.112 -20.8
	1989	0.040	0.051	0.049	0.067	0.078	0.097	0.118	0.071 -36.5
	1999	0.091	0.066	0.054	0.063	0.075	0.080	0.093	0.075 5.0

Table 2.2 Proportions of Children Dead by District, 1969-1999 (continued)

PROVINCE/ District	Year	Age Group of Mother							Ave.	% change
		15-19	20-24	25-29	30-34	35-39	40-44	45-49		
Nakuru	1969	0.100	0.127	0.165	0.182	0.201	0.225	0.246	0.178	
	1979	0.086	0.094	0.111	0.129	0.146	0.175	0.205	0.135	-24.1
	1989	0.077	0.068	0.074	0.085	0.098	0.117	0.138	0.094	-30.5
	1999	0.096	0.075	0.066	0.071	0.077	0.090	0.104	0.083	-12.0
Nandi	1969	0.098	0.103	0.119	0.16	0.177	0.235	0.247	0.163	
	1979	0.095	0.108	0.122	0.144	0.160	0.193	0.215	0.148	-8.9
	1989	0.080	0.079	0.084	0.104	0.121	0.144	0.166	0.111	-25
	1999	0.088	0.087	0.082	0.094	0.099	0.117	0.139	0.101	-9.1
Narok	1969	0.081	0.105	0.122	0.126	0.168	0.190	0.260	0.150	
	1979	0.080	0.096	0.133	0.134	0.149	0.164	0.186	0.132	-12.4
	1989	0.064	0.074	0.084	0.100	0.113	0.133	0.149	0.102	-22.2
	1999	0.074	0.076	0.071	0.083	0.090	0.102	0.118	0.088	-14.0
Samburu	1969	0.115	0.086	0.090	0.099	0.102	0.100	0.122	0.102	
	1979	0.067	0.074	0.090	0.101	0.109	0.129	0.143	0.102	-0.1
	1989	0.051	0.049	0.060	0.073	0.084	0.111	0.125	0.079	-22.4
	1999	0.105	0.066	0.062	0.080	0.090	0.107	0.135	0.092	16.6
Trans Mara	1999	0.079	0.072	0.083	0.099	0.115	0.131	0.145	0.103	
Trans	1969	0.182	0.125	0.163	0.209	0.245	0.259	0.363	0.221	
Nzoia	1979	0.091	0.111	0.129	0.147	0.168	0.197	0.230	0.153	-30.6
	1989	0.093	0.091	0.096	0.114	0.133	0.151	0.169	0.121	-21.1
	1999	0.090	0.087	0.083	0.093	0.104	0.125	0.143	0.104	-14.4
	1969	0.078	0.093	0.166	0.147	0.167	0.201	0.122	0.139	
Turkana	1979	0.121	0.129	0.147	0.181	0.192	0.210	0.225	0.172	23.8
	1989	0.114	0.131	0.149	0.186	0.203	0.229	0.235	0.178	3.5
	1999	0.133	0.109	0.106	0.128	0.138	0.164	0.174	0.136	-23.6
	1969	0.071	0.085	0.093	0.126	0.140	0.187	0.180	0.126	
Uasin	1969	0.071	0.085	0.093	0.126	0.140	0.187	0.180	0.126	
Gishu	1979	0.075	0.089	0.106	0.126	0.150	0.169	0.193	0.130	2.8
	1989	0.074	0.071	0.075	0.091	0.102	0.128	0.146	0.098	-24.3
	1999	0.089	0.079	0.066	0.075	0.078	0.095	0.113	0.085	-13.3
	1969	0.121	0.156	0.183	0.219	0.246	0.308	0.332	0.224	
West Pokot	1979	0.177	0.122	0.217	0.248	0.270	0.303	0.335	0.239	6.8
	1989	0.166	0.140	0.166	0.196	0.226	0.255	0.295	0.206	-13.6
	1999	0.113	0.106	0.115	0.142	0.163	0.196	0.228	0.152	-26.3
	1969	0.072	0.058	0.059	0.070	0.076	0.090	0.095	0.074	
Buret WESTERN	1969	0.128	0.167	0.204	0.223	0.256	0.304	0.351	0.233	
	1979	0.133	0.148	0.172	0.198	0.221	0.254	0.294	0.203	-13
	1989	0.138	0.142	0.149	0.163	0.180	0.208	0.234	0.173	-14.5
	1999	0.135	0.140	0.141	0.151	0.161	0.181	0.204	0.159	-8.1
Bungoma	1969	0.136	0.146	0.167	0.197	0.233	0.266	0.317	0.209	
	1979	0.115	0.136	0.157	0.174	0.193	0.266	0.261	0.180	-13.6
	1989	0.128	0.130	0.132	0.148	0.164	0.186	0.211	0.157	-12.9
	1999	0.123	0.117	0.125	0.135	0.143	0.162	0.184	0.146	-7.0
Busia	1969	0.184	0.226	0.268	0.296	0.322	0.392	0.443	0.304	
	1979	0.168	0.193	0.223	0.269	0.296	0.339	0.377	0.266	-12.4
	1989	0.158	0.167	0.179	0.197	0.222	0.265	0.296	0.212	-20.4
	1999	0.160	0.182	0.177	0.187	0.198	0.228	0.263	0.205	-3.3
Mt. Elgon Kakamega	1999	0.117	0.100	0.105	0.116	0.130	0.151	0.172	0.131	
	1969	0.114	0.161	0.200	0.212	0.246	0.296	0.337	0.224	
	1979	0.129	0.138	0.164	0.186	0.212	0.239	0.280	0.193	-13.9
	1989	0.136	0.14	0.148	0.161	0.176	0.200	0.225	0.169	-12
Lugari	1999	0.126	0.146	0.147	0.158	0.169	0.193	0.213	0.173	+2.4
	1999	0.091	0.107	0.104	0.112	0.117	0.134	0.148	0.121	
	1999	0.140	0.137	0.138	0.150	0.161	0.193	0.225	0.167	
	1999	0.134	0.123	0.123	0.138	0.145	0.155	0.176	0.148	
Teso	1999	0.134	0.123	0.123	0.138	0.145	0.155	0.176	0.148	
Vihiga	1999	0.157	0.170	0.171	0.180	0.193	0.215	0.243	0.190	
Butere	1999	0.157	0.170	0.171	0.180	0.193	0.215	0.243	0.190	
Mumias	1999	0.157	0.170	0.171	0.180	0.193	0.215	0.243	0.190	

2.4 Estimates of Childhood Mortality

Using data on CEB and children dead (CD), proportions of children dead are generated. While such proportions are tabulated by the respective age of the mothers, information on the ages at which the children died is not available. By intuition, there is an obvious relationship between the age of a mother and the age at which her children die, i.e., the older the mothers, the older will be their children at the time of their death. The basic nature of this relationship was determined by Brass (1964), whereby the proportion of their children who have died among those born by a given age group of mothers is equated to the proportions dying by a specified age as indicated below.

Age group	15-19	20-24	25-29	30-34	35-39	40-44	45-49
Proportion of children dying by age	1	2	3	5	10	15	20

As a word of caution, there may be need to refine this relationship depending on the shape of the age-specific fertility distribution. If the mothers started child-bearing at relatively young ages, their children would, on average, be older by the time the mothers reached a given age group and vice versa. Brass developed a series of adjustment factors using information on age-specific fertility from births reported as occurring in the 12 months before the census. Later on, various modifications of the adjustment procedure have evolved, mostly using regression methods based on a wide variety of fertility and mortality models, and utilising data on CEB as well as current births. However, the results rarely differ appreciably from those given by the original Brass method.

Another issue of concern is when the deaths of the children occurred. Once again, an association is made between the age of the mother and the time location for the deaths, i.e., the older the mothers, the further back in time will the child deaths have occurred. Thus, if the general level of mortality is changing, the estimates of dying by ages 1, 2, 3... etc., cannot be strung together to form a life table since they refer to different time periods. A method of determining an average time location for the mortality estimates derived from each age group of mothers was first derived by Eeeney (1980). Again, this procedure has been subject to subsequent modifications.

A new concern has emerged in terms of the effect of HIV/AIDS on the estimation of child mortality using data on CEB and children dead. Ward and Zaba (1997) reckon that HIV/AIDS undermines the validity of this method in three important ways: interdependence of maternal and child mortality, dependence of child mortality on maternal age and the shape of the life table survivorship function.

The Brass method is based on the assumption that the correlation of mortality between mothers and their children is sufficiently small to be ignored. Thus, the reports of living women on their children's survival are assumed to represent the survival of all children in the population. However, HIV/AIDS may significantly violate this assumption because of the highly correlated mortality it introduces between mothers and their children, due to vertical transmission from mother to infant and the high case fatality of HIV infection in both adults and children. The effect of this highly correlated maternal and child mortality means that retrospective data on child survival given in a census will not be representative of the survival of all births in the entire population. This is because women who were HIV-positive t years ago will have had higher mortality in the intervening period than women who were HIV-negative at the time. They will, therefore, constitute a lower proportion of the women reporting than they formed of the group of women giving birth t years ago. The children born by women who died prior to the census will not be reported during the census. So children born t years ago to HIV-positive women will form a lower proportion of reported births than they did the set of all births t years ago. Because of vertical transmission, these children have substantially higher mortality than the children of women who were HIV-negative t years ago. The reported proportion dead will, therefore, be lower than the true proportion dead, and child mortality in the population will be underestimated.

The Brass method also assumes that the mortality experience of children of women in a particular age group is representative of mortality in the population as a whole at a particular point in the past. HIV/AIDS violates this assumption by introducing heterogeneity in child mortality with respect to the age of the mothers. Since HIV prevalence varies with age, the proportion of children born HIV-positive will vary between different age groups of mothers. For this reason, mortality experienced by children with mothers in a high prevalence age group will be higher than child mortality in the general population.

HIV/AIDS will also alter age-specific mortality patterns for children and young adults. This may introduce additional error to the mortality estimates since the multipliers, which are specific to particular families of model life tables, may be inappropriate for the age patterns of mortality found in populations with HIV/AIDS.

The need to adjust child mortality estimates to allow for the effects of HIV/AIDS on the indirect estimates will depend largely on two factors: the prevalence of HIV, which will determine the magnitude of the adjustment; and the level of background mortality, which will dictate how important the correction is in proportionate terms.

In populations with HIV/AIDS, the model life table used to convert estimates to $q(5)$ would need to include the effect of HIV/AIDS since it substantially affects the age pattern of mortality. The time location of the mortality estimates will also be affected by the HIV epidemic. The time location procedure assumes that there has been a linear decline in mortality over time: this will be violated in a population undergoing a substantial epidemic in HIV/AIDS. Heterogeneity in child mortality by age of mother and the change in the shape of the life table for the population do threaten the validity of conventional time location estimates.

No fully satisfactory solution to these problems has yet been developed. However, Ward and Zaba have made a first step in that direction and have developed a series of corrections based on the level of HIV prevalence which should be added to the conventional estimates. These corrections, however, were based on models which assumed that the epidemic had stabilised. In situations, as in Kenya, where it has not stabilised, the corrections will tend to overestimate mortality. The corrected and uncorrected estimates can therefore be seen as upper and lower bounds of the mortality.

As a compromise, the $q(5)$ values used here were obtained by taking the average of the corrected and uncorrected estimates.

To obtain trends in child mortality, the estimates of dying by age need to be matched against a model life table system in order to determine equivalent values of a common index of mortality, usually either $q(1)$, the infant mortality rate, or $q(5)$, the mortality in the first five years of life. The resultant estimates vary slightly depending on which model life table system is used.

Where censuses are held at intervals of 10 years or less, the estimates of child mortality with their respective time locations will overlap. The degree to which such estimates agree from one census to another is a good indicator of the validity of the estimates, and this can be readily assessed when they are plotted on a graph. Nevertheless, it is worth noting that since the children born by younger mothers are generally subject to unusually high mortality risks, the estimates derived from the 15-19 age group of mothers (and to a lesser extent from those aged 20-24) are nearly always out of line. These points should be discounted when assessing the overall trend in child mortality.

The tedious task of converting the proportions of children dead by age of mothers into values of $q(x)$, matching them against model life table systems to determine equivalent values of $q(1)$ or $q(5)$ and the calculation of the time locations has been greatly facilitated by the software package QFIVE developed by the Population Division of the United Nations in 1990. This package produces estimates of $q(x)$ given by the Trussell's regression equations based on the four families of the Coale-Demeny (1966) life tables and those from the Palloni-Heligman equations using the five families of the new United Nations () models, together with the equivalent values of $q(1)$ and $q(5)$

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and the respective time locations of those estimates.

After generating probabilities of dying by age x for the 1999 census, these, together with the corresponding ones for the previous censuses are given in Table 2.3 for North, South and West models. Results for the East model have always been considered inappropriate to the situation in Kenya.

Table 2.3 Estimates of Childhood Mortality by Trussell's Method

Age (x)	Probability of Dying by Age x														
	North					South					West				
	1962	1969	1979	1989	1999	1962	1969	1979	1989	1999	1962	1969	1979	1989	1999
1	0.137	0.129	0.120	0.113	0.112	0.132	0.132	0.117	0.110	0.108	0.142	0.132	0.123	0.116	0.116
2	0.160	0.143	0.122	0.103	0.104	0.167	0.167	0.128	0.108	0.109	0.169	0.150	0.129	0.108	0.110
3	0.188	0.162	0.132	0.102	0.096	0.202	0.202	0.141	0.109	0.103	0.199	0.171	0.139	0.107	0.102
5	0.229	0.196	0.161	0.124	0.116	0.238	0.238	0.167	0.128	0.120	0.235	0.201	0.165	0.126	0.119
10	0.276	0.239	0.191	0.145	0.132	0.276	0.276	0.190	0.144	0.132	0.272	0.234	0.187	0.142	0.130
15	0.313	0.269	0.222	0.170	0.155	0.310	0.310	0.219	0.168	0.153	0.307	0.264	0.218	0.167	0.152
25	0.338	0.305	0.254	0.189	0.185	0.336	0.336	0.252	0.187	0.184	0.335	0.302	0.252	0.187	0.184

Estimates of dying by age x show a consistent decline from 1962 through 1989. However, between the 1989 and 1999 censuses, the rate of decline slowed drastically to the extent that there was a slight increase in child mortality for the younger women.

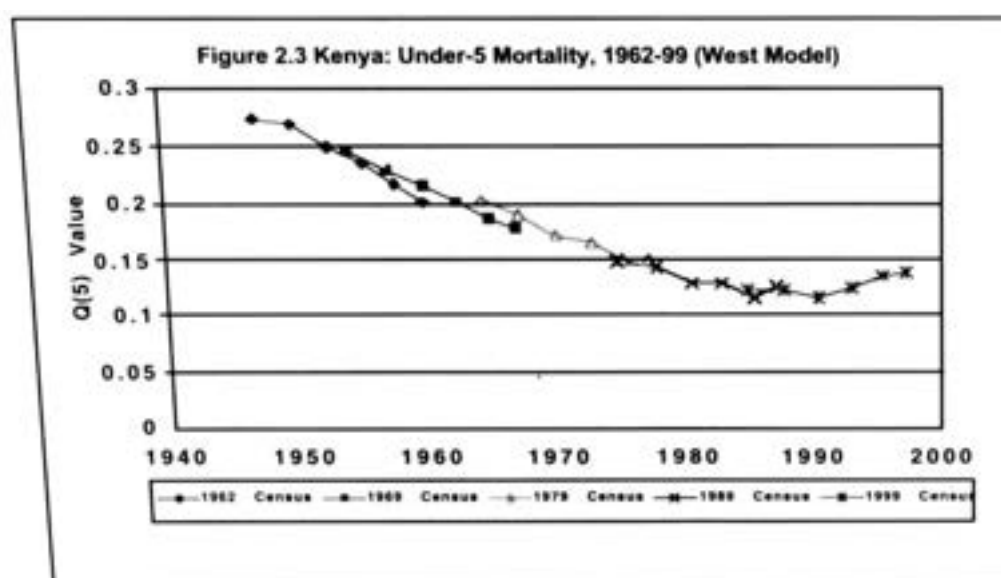
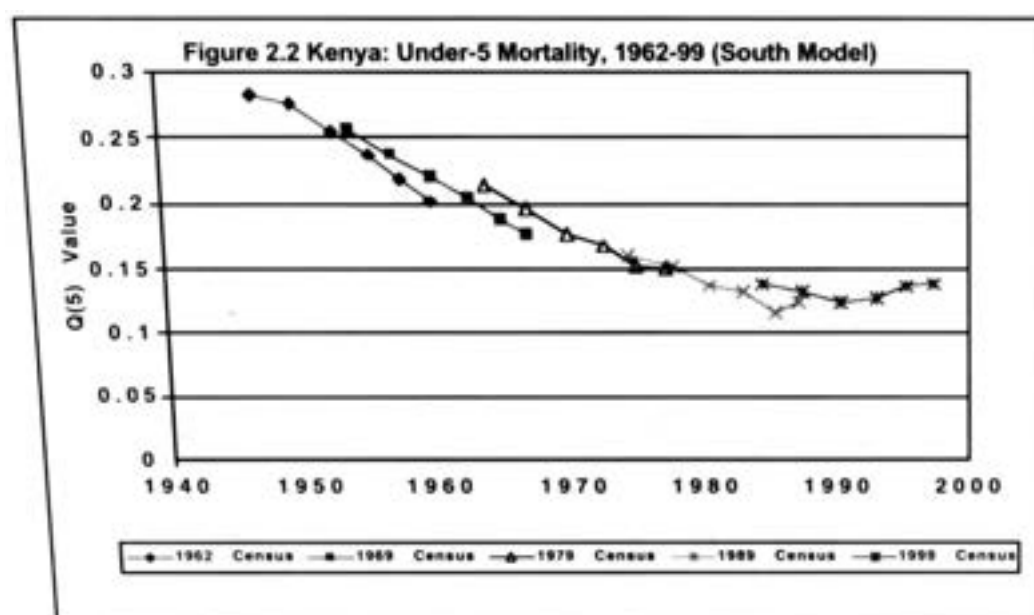
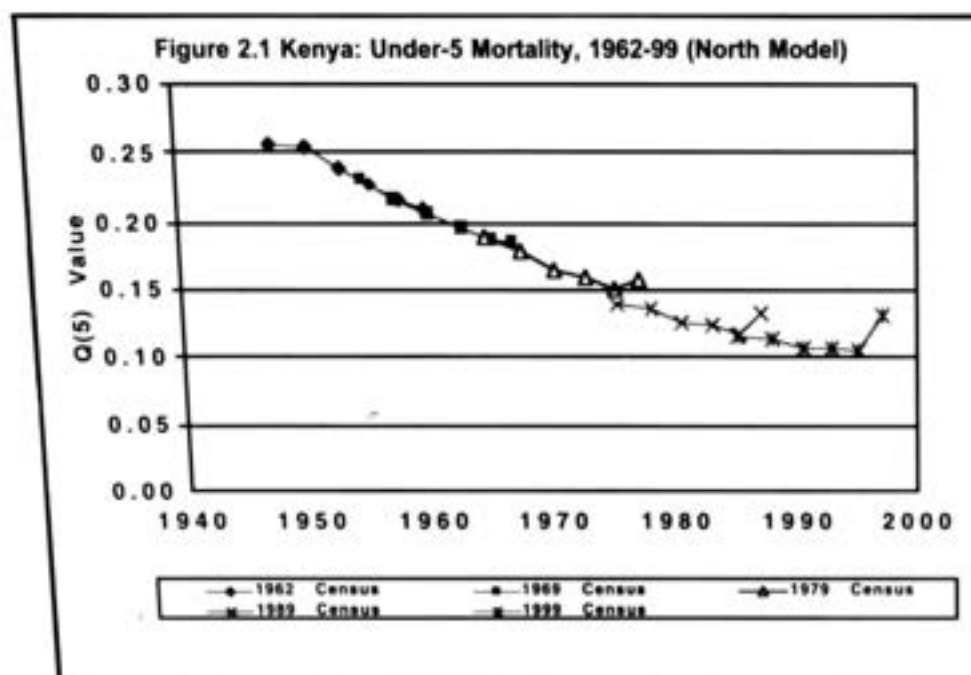
In order to choose the model with the most consistent trend, the probabilities of dying by age 5, for the three models, were graphed as presented in Figures 2.1-2.3. Right from the 1962 census through the 1999 census data, the North model produces the most consistent trend for the probabilities of dying by age 5. Due to regional variations, it is only in Eastern and Nyanza provinces that the North model shows the most consistent trend. While the South model was most consistent for Nairobi and North Eastern provinces, the West model was best for Central, Coast, Rift Valley and Western provinces (see Appendix 2).

The Brass method of estimating child mortality is based on the assumption that fertility and childhood mortality have remained constant in the recent past. To circumvent the problems caused by declining fertility, data for true cohorts were used. Similarly, use of data on CEB and children dead from two censuses solved the problem of declining mortality. The use of hypothetical cohorts, representing the intercensal experience, provides mortality estimates that refer to the intercensal period.

2.4.1 Hypothetical Cohorts

The problem of time location was overcome by constructing a hypothetical cohort for the period between 1989 and 1999. Since the numbers of children born by each cohort both in 1989 and in 1999 were known, the corresponding numbers born by the cohort during the intercensal period is the difference between the two. By adding those differences for all the cohorts, we constructed a series of average parities for a hypothetical cohort of women who would go through life having children at the rate that pertained to the intercensal period.

Similarly, the mean numbers of dead children per woman for the hypothetical cohort were constructed since the numbers of children who had died at the time of the two censuses were known. Thus, by dividing the mean numbers of dead children by the numbers ever born, the proportions of children dead for the hypothetical cohort were obtained. These proportions dead were then converted into estimates of $q(x)$, with equivalent values of $q(5)$, in the usual way. Since these estimates refer to the same time period (i.e., the mid-point of the intercensal decade), the consist-



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ency of the estimates provides a test of their validity. Proportions of children dead and mortality in the first five years for the hypothetical cohorts are shown in Table 2.4.

Table 2.4 Proportions of Children Dead and Under-5 Mortality for Hypothetical Cohorts, 1969-1999

Age Group	Proportions Dead			% Change		Under-5 Mortality			% Change	
	1969-79	1979-89	1989-99			1969-79	1979-89	1989-99		
15-19	0.116	0.111	0.117	-4.3	+5.4	0.203	0.191	0.172	-5.9	-11.3
20-24	0.125	0.104	0.108	-16.5	+3.8	0.159	0.133	0.134	-16.4	+0.3
25-29	0.140	0.107	0.100	-23.4	-6.5	0.150	0.116	0.112	-22.7	-3.8
30-34	0.158	0.119	0.112	-25.1	-5.9	0.153	0.116	0.118	-24.2	+1.8
35-39	0.166	0.120	0.115	-28.0	-4.2	0.148	0.108	0.112	-27.0	+3.6
40-44	0.184	0.129	0.131	-30.1	+1.6	0.151	0.107	0.119	-29.1	+9.7
45-49	0.197	0.129	0.140	-34.5	+8.5	0.146	0.095	0.125	-34.9	+24.0
Average				-23.1	+0.4	Average			-22.9	+3.5

While a consistent decline in child mortality was experienced during the 1979-89 intercensal period, there was no consistent pattern in child mortality during the 1989-99 period. On average, both proportions of children dead and the probabilities of dying by age 5 suggest an increase in child mortality during this period.

2.4.2 Probability of Dying by Age 5

After excluding the outlying age groups, estimates from the North model for women aged 25-44 were averaged to an under-5 mortality of 116 per 1,000 lives for the 1989-99 intercensal period. This represents a 2.7% rise in child mortality from the level of 113 per 1,000 lives during the 1979-89 period. This, in effect, implies that the quality of health of children in Kenya worsened during the intercensal period. Sex differential in under-5 mortality maintained the previous trend with males recording a higher mortality rate (119) than females (113). Further evidence of this is derived from estimates based on the survival of last-born children. Appendix 3 shows that under-5 male mortality was higher than female mortality in majority of the districts.

2.5 Regional Differentials in Under-5 Mortality

Table 2.5 shows variations in under-5 mortality by district and province.

Table 2.5 Under-5 Mortality for Hypothetical Cohorts by District, 1979-89 and 1989-99

PROVINCE/ District	Under-5 Mortality Rates					
	1979-89			1989-99		
	Male	Female	Total	Male	Female	Total
KENYA	117	108	113	119	113	116
NAIROBI	78	72	75	95	90	93
CENTRAL	52	48	50	68	64	66
Kiambu	62	57	60	74	70	72
Kirinyaga	60	55	58	78	74	76
Murang'a	51	47	49	60	56	58
Nyandarua	43	40	42	68	64	66
Nyeri	38	35	37	54	52	53
Thika	-	-	-	87	82	84
Maragua	-	-	-	64	61	62
COAST	136	125	131	143	135	139
Kilifi	146	135	141	140	142	141
Kwale	156	144	150	149	149	149
Lamu	128	118	123	108	110	109

Table 2.5 Under-5 Mortality for Hypothetical Cohorts by District, 1979-89 and 1989-99 (continued)

PROVINCE/ District	Under-5 Mortality Rates 1979-89			Under-5 Mortality Rates 1989-99		
	Male	Female	Total	Male	Female	Total
Mombasa	111	102	107	114	108	112
Taita Taveta	96	89	93	107	107	107
Tana River	145	134	140	147	147	147
Malindi	-	-	-	127	127	127
EASTERN	75	69	72	80	77	79
Embu	88	63	66	71	67	69
Isiolo	129	119	124	129	115	118
Kitui	110	102	106	119	112	116
Makueni	-	-	-	96	90	93
Machakos	70	65	68	84	80	82
Marsabit	70	65	68	82	77	80
Mbeere	-	-	-	76	72	74
Meru Central	58	53	56	76	73	75
Moyale	-	-	-	129	121	125
Mwingi	-	-	-	130	123	127
Meru North	-	-	-	73	68	70
Tharaka	-	-	-	154	154	154
Nithi (Meru S.)	-	-	-	86	89	87
NORTH EASTERN	136	125	131	110	96	103
Garissa	140	129	135	112	108	105
Mandera	133	123	128	111	103	107
Wajir	133	123	128	117	100	108
NYANZA	186	172	179	198	187	192
Gucha	-	-	-	148	140	144
Homa Bay	221	204	213	261	246	254
Kisii Central	113	104	109	125	117	121
Kisumu	213	196	205	226	213	220
Kuria	-	-	-	139	131	134
Migori	-	-	-	247	233	240
Nyamira	-	-	-	83	80	81
Rachuonyo	-	-	-	207	195	201
Siaya	221	204	213	241	227	234
Suba	-	-	-	255	240	247
Bondo	-	-	-	214	202	208
Nyando	-	-	-	219	206	212
RIFT VALLEY	95	88	92	88	83	86
Baringo	113	105	109	103	98	10
Bomet	-	-	-	63	59	61
Keiyo	-	-	-	59	55	57
Kajiado	77	71	74	83	78	80
Kericho	85	78	82	101	95	98
Koibatek	-	-	-	71	70	70
Laikipia	54	49	52	73	69	71
Marakwet	-	-	-	69	65	67
Nakuru	74	68	71	87	82	84
Nandi	92	84	88	103	97	100
Narok	89	82	86	86	82	84
Samburu	66	60	63	95	89	92
Trans Mara	-	-	-	106	100	103
Trans Nzoia	108	99	104	100	94	97
Turkana	186	172	179	121	114	117
Uasin Gishu	84	78	81	88	83	86
West Pokot	189	174	182	130	123	127
Buret	-	-	-	69	65	67
WESTERN	161	149	155	164	155	159
Bungoma	145	134	140	149	141	145
Busia	183	169	176	217	204	210
Mt Elgon	-	-	-	115	109	112
Kakamega	162	149	156	174	164	169
Lugari	-	-	-	107	101	104
Teso	-	-	-	152	143	147
Vihiga	-	-	-	136	129	133
Butere/Mumias	-	-	-	207	198	204

Note: Districts without values for 1979-89 were created after the 1989 census. Under-5 mortality estimates for these districts are likely to vary from the actual levels since the estimates were based on the 1989 mortality levels of the larger districts from which the new ones were carved

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Provincial estimates of under-5 mortality during the 1989-99 period ranged from 66 to 192 per 1,000 live births in Central and Nyanza, respectively. It means that children born in Nyanza province were three times more likely to die by age 5 as compared to those born in Central province. The provinces with rates lower than the national level were Central, Rift Valley and Nairobi. The same pattern was depicted in the 1979-89 period when Central province recorded the lowest rate while the highest was observed in Nyanza.

On the other hand, the district estimates ranged from 53 in Nyeri to 254 in Homa Bay. As depicted at the national level, all districts except Garissa, Trans Nzoia, Turkana and West Pokot recorded increases in under-5 mortality. This means that the quality of life is worsening in almost all the districts in Kenya.

2.6 Differentials in Child Mortality by Sex

Table 2.6 presents proportions of children dead by sex from the last three censuses.

Table 2.6 Proportions of Children Dead by Sex: 1979,1989 and 1999

Year	Sex	Proportions of Children Dead							Ave.	% Change
		15-19	20-24	25-29	30-34	35-39	40-44	45-49		
1979	Male	0.123	0.129	0.148	0.173	0.192	0.225	0.263	0.179	
	Female	0.109	0.120	0.134	0.159	0.177	0.210	0.243	0.165	8.8
1989	Male	0.113	0.107	0.112	0.135	0.144	0.171	0.194	0.139	
	Female	0.109	0.100	0.104	0.123	0.133	0.158	0.178	0.129	7.8
1999	Male	0.117	0.106	0.099	0.106	0.115	0.137	0.155	0.119	
	Female	0.117	0.110	0.100	0.115	0.122	0.141	0.157	0.123	-3.1

While the mortality for male children was consistently higher than that for female children in both the 1979 and 1989 censuses, the 1999 data seem to suggest the opposite. On average, mortality of male children during the two previous censuses was about 8% higher than that of female children; however, mortality of male children was 3% lower in the 1999 census. It must be pointed out that this is an anomaly created by the scanner. Apparently, the error margin through misreading of data was higher on female deaths.

2.7 Regional Differentials in Child Mortality by Sex

As shown in Appendix 4, the proportions of female children dead were higher than those for males especially for children whose mothers were between 24 and 49 years of age. This finding contradicts theory and earlier findings whereby male mortality has always been higher than female mortality during childhood. This finding is only supported by results from Nyeri, Trans Mara, West Pokot and Buret that show higher proportions of male children dead as compared to those of female children. The inconsistency observed in the proportions of children dead may be attributed to the errors introduced in the data during scanning.

2.8 Differentials in Child Mortality by Education of Mother

As shown in Table 2.7, there was a consistent decline in the proportions of children dead with increasing level of education of mother for all age groups except for the first age group. With disregard to age, the successive declines are such that primary level of education of a mother was associated with an average reduction of 25% in child mortality relative to the mortality of children whose mothers had never attended school. Similarly, mothers who had attended secondary and tertiary levels of education had mortality of their children reduced by about 31% and 8%, respectively.

Table 2.7 Proportions of Children Dead by Level of Education of Mother, 1999

Level of Education	Age Group of Mother							Total	% Change
	15-19	20-24	25-29	30-34	35-39	40-44	45-49		
None	0.1143	0.1136	0.1157	0.1365	0.1493	0.1698	0.1841	0.1563	
Primary	0.1182	0.1109	0.1047	0.1139	0.1172	0.1288	0.1394	0.1180	-24.5
Secondary	0.1117	0.0937	0.0735	0.0796	0.0799	0.0847	0.0895	0.0819	-30.6
Tertiary	0.0844	0.1171	0.0763	0.0730	0.0710	0.0675	0.0785	0.0750	-8.4

2.9 Regional Differentials in Child Mortality by Education of Mother

It became necessary to combine mothers who had attained secondary level of education and those of tertiary due to the relatively small numbers of mothers in the latter group in a number of districts.

Taking all women in each of the three broad categories (none, primary and secondary+), there were successive declines in child mortality with increase in the level of education of the mother in all the provinces except North Eastern where mothers with primary level of education experienced higher mortality relative to those with no education (possibly an indication of under-reporting by the uneducated mothers, see Appendix 5).

A similar analysis at district level depicts a consistent decline of proportions of children dead with increasing level of education of mothers except for a few isolated cases. It is apparently not clear why children of mothers with at least secondary level of education in Nyandarua, Central Meru, Kajiado and Laikipia districts experienced a higher mortality as compared to those whose mothers had primary level of education. Higher child mortality for mothers with primary level of education relative to those with no education was noted in Garissa, Wajir and Kajiado districts.

Although census data indicated that educating a Kenyan female up to primary level reduced child mortality by about 25% and by a further 31 % if she proceeded to at least complete secondary education, there were wide variations in respective reductions of child mortality with increase in the level of education by region. For example, child mortality for women with at least secondary education in Nyanza province was 23% higher than for women with no education in Central province. Mortality of children to mothers with a minimum of secondary education was much higher in Migori (120%), Homa Bay (125%), Siaya (129%) and Suba (146%) districts than it was for women with no education in Nyeri district. This underscores the relative influence (other than the level of education) of other determinants of child mortality.

2.10 Differentials in Child Mortality by Marital Status of Mother

Table 2.8 presents the proportions of children dead by the marital status of the mother for the 1969, 1979, 1989 and 1999 censuses. According to the 1999 census results, it is evident that single women continued to exhibit low (0.108) proportions of children dead followed by married women (0.119). The widowed women had the highest proportion (0.176) of children dead. All women, except the singles, recorded declines in the proportions of children dead compared to the 1989 census results.

2.11 Differentials in Child Mortality by Urban-Rural Residence of Mother

The place of residence of a mother has an indirect bearing on the level of child mortality as illustrated by the proportions of children dead in Table 2.9. In all three previous censuses, child mortality of urban residents was lower than that of rural residents for all age groups. On average, the chance of experiencing child mortality was increased by about 14% for children to rural resident mothers.

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Table 2.8 Proportions of Children Dead by Marital Status of Mother

Marital Status	Year	Age Group of Mother							Ave.	% Change
		15-19	20-24	25-29	30-34	35-39	40-44	45-49		
Single	1969	0.091	0.097	0.159	0.211	0.230	0.256	0.310	0.193	
	1979	0.074	0.073	0.107	0.132	0.164	0.184	0.229	0.138	-28.5
	1989	0.087	0.074	0.081	0.101	0.113	0.140	0.163	0.108	-21.7
	1999	0.118	0.113	0.089	0.102	0.107	0.116	0.130	0.108	0.0
Married	1969	-	-	-	-	-	-	-	-	
	1979	0.125	0.129	0.141	0.164	0.181	0.212	0.244	0.171	
	1989	0.120	0.107	0.109	0.129	0.138	0.162	0.183	0.135	-21.1
	1999	0.115	0.105	0.098	0.109	0.116	0.136	0.152	0.119	-11.9
Widowed	1969	-	-	-	-	-	-	-	-	
	1979	0.205	0.193	0.189	0.217	0.233	0.270	0.309	0.231	
	1989	0.301	0.167	0.152	0.174	0.183	0.210	0.232	0.203	-12.1
	1999	0.189	0.172	0.158	0.158	0.157	0.181	0.197	0.176	-13.3
Divorced	1969	-	-	-	-	-	-	-	-	
	1979	0.127	0.139	0.153	0.175	0.192	0.226	0.261	0.182	
	1989	0.135	0.123	0.132	0.144	0.154	0.182	0.203	0.153	-15.9
	1999	0.138	0.128	0.116	0.121	0.128	0.152	0.168	0.135	-11.8

- = Data not available

Table 2.9 Proportions of Children Dead by Place of Residence: 1979,1989 and 1999

Year	Place of Residence	Proportions of Children Dead							Ave.	% Change
		15-19	20-24	25-29	30-34	35-39	40-44	45-49		
1979	Urban	0.109	0.109	0.117	0.135	0.155	0.188	0.220	0.148	
	Rural	0.117	0.128	0.146	0.170	0.188	0.220	0.256	0.175	-15.7
1989	Urban	0.106	0.098	0.096	0.107	0.113	0.138	0.160	0.117	
	Rural	0.112	0.105	0.111	0.133	0.142	0.167	0.188	0.137	-14.6
1999	Urban	0.117	0.106	0.088	0.095	0.101	0.115	0.127	0.107	
	Rural	0.117	0.109	0.102	0.114	0.121	0.142	0.159	0.123	-13.3

2.12 Regional Differentials by Place of Residence of Mother

At the provincial level, the proportion of children dead is higher in urban areas in Central and Eastern provinces while the opposite is true in other provinces (see Appendix 6). At district level, analysis of the proportions of children tabulated by urban/rural residence shows that the survival of children in Kenya has deteriorated in the urban areas. The continued poor performance of the local authorities in providing the necessary social services (clean/safe water, sanitation, garbage collection) to their urban residents may have contributed to this change. This is contrary to earlier findings of higher child survival in urban areas. Such earlier findings are only supported by the results from Kajiado, Nandi, Narok, Trans Nzoia and West Pokot that show higher proportions of children dead in the rural areas as compared to the urban areas.

2.13 Differentials in Child Mortality by Main Source of Water

The type of water available for domestic use has an influence on the level of child mortality. As Table 2.10 shows, use of the relatively safer and cleaner piped water yielded the lowest proportions of children dead as compared to lake water. The use of lake water was associated with an increase in child mortality of about 126% when compared to the use of piped water. When compared with the proportions of children dead in 1989, it is clearly evident that there was a rise in child mortality in 1999 irrespective of the source of water. On average, child mortality increased by about 14% between 1989 and 1999.

Table 2.10 Proportions of Children Dead by Main Source of Water, 1999

	15-19	20-24	25-29	30-34	35-39	40-44	45-49	Total	Ave. 1989
All	0.1582	0.1550	0.1533	0.1570	0.1630	0.1691	0.1683	0.1577	0.138
Piped	0.1158	0.1141	0.1143	0.1166	0.1210	0.1250	0.1255	0.1164	0.110
Jabia/tank	0.1196	0.1157	0.1144	0.1133	0.1220	0.1246	0.1164	0.1171	0.088
Well	0.1550	0.1550	0.1517	0.1540	0.1584	0.1622	0.1588	0.1550	0.146
Stream/River	0.1637	0.1621	0.1590	0.1631	0.1701	0.1754	0.1732	0.1639	0.140
Dam	0.1643	0.1649	0.1598	0.1654	0.1703	0.1747	0.1760	0.1654	0.141
Borehole	0.1782	0.1729	0.1703	0.1728	0.1831	0.1916	0.1955	0.1767	0.163
Spring	0.1801	0.1796	0.1789	0.1859	0.1849	0.1883	0.1816	0.1813	-
Pond	0.1916	0.1865	0.1874	0.1902	0.1978	0.2002	0.2064	0.1913	0.179
Lake	0.2694	0.2582	0.2608	0.2608	0.2615	0.2600	0.2690	0.2629	0.233
Other	0.1521	0.1470	0.1489	0.1488	0.1559	0.1653	0.1654	0.1514	—

2.14 Differentials in Child Mortality by Means of Sewage Disposal

The means by which human waste is disposed has a direct bearing on the level of child mortality. Table 2.11 indicates that the use of main sewer continues to yield the lowest proportions of children dead while the use of bush is associated with the highest child mortality. Continued use of bush as a means of disposing of human waste increased child mortality by about 78% as compared to using a main sewer. A similar situation whereby the use of bush is associated with the highest child mortality was observed in all provinces except North Eastern as Table 2.12 shows.

Table 2.11 Proportions of Children Dead by Main Means of Sewage Disposal, 1999

	15-19	20-24	25-29	30-34	35-39	40-44	45-49	Total
All	0.1167	0.1079	0.0992	0.1104	0.1182	0.1390	0.1559	0.1219
Main sewer	0.1190	0.1034	0.0763	0.0794	0.0846	0.0914	0.1030	0.0882
Septic tank	0.1275	0.1079	0.0759	0.0832	0.0826	0.0885	0.0990	0.0882
Cess pool	0.1292	0.1100	0.0855	0.0902	0.0975	0.1099	0.1245	0.1005
Pit latrine	0.1118	0.1023	0.0941	0.1043	0.1109	0.1299	0.1456	0.1149
Bucket latrine	0.1066	0.1025	0.0944	0.1048	0.1111	0.1401	0.1559	0.1164
Bush	0.1315	0.1285	0.1248	0.1421	0.1556	0.1829	0.2090	0.1572
Other	0.1344	0.1297	0.1222	0.1515	0.1619	0.1924	0.2090	0.1597

Table 2.12 Proportions of Children Dead by Main Means of Sewage Disposal and Province, 1999

	Nairobi	Central	Coast	Eastern	N/Eastern	Nyanza	Rift Valley	Western
All	0.0926	0.0641	0.1438	0.0892	0.1110	0.1954	0.0951	0.1642
Main sewer	0.0824	0.0840	0.0935	0.0813	0.1224	0.1393	0.0815	0.1187
Septic tank	0.0897	0.0732	0.0868	0.0855	0.1120	0.1260	0.0860	0.1020
Cess pool	0.0895	0.0932	0.1079	0.0792	0.1044	0.1583	0.0854	0.1121
Pit latrine	0.1055	0.0629	0.1253	0.0813	0.1314	0.1788	0.0848	0.1622
Bucket latrine	0.1038	0.0672	0.1164	0.0842	0.1260	0.1429	0.0928	0.1507
Bush	0.1258	0.0993	0.1742	0.1299	0.1055	0.2716	0.1181	0.2244
Other	0.1166	0.0800	0.1508	0.0938	0.1719	0.2716	0.1050	0.1789

Chapter 3

Adult Mortality

3.1 Data on Orphanhood

The great advantage of this method of mortality estimation is that it relies upon information gathered by questions that are simple and easy to answer. Typical questions on orphanhood are "Is your father alive?" and "Is your mother alive?" The possible answers are "yes", "no" or "not known". These questions were incorporated in all Kenya census questionnaires since 1969, including that of 1999.

It is important to note that information on survival of parents is an indicator only of adult mortality, since exposure to the risk of the target persons begins in adulthood. Thus, strictly speaking, such data should be used only to estimate survivorship probabilities from one adult age to another. Since this method is conditional, the resultant estimated parameters are conditional probabilities of survival that do not, by themselves, define a complete life table.

Sometimes, orphanhood data give biases leading to over-reporting or under-reporting of adult mortality. The estimated probabilities of survivorship do not refer to the entire population since they reflect only the mortality experience of parents with surviving children. Furthermore, if questions on orphanhood are asked of the entire population, parents with several surviving children will tend to be over represented. By the same token, parents with no surviving children have nobody to represent them.

Survivorship estimates based on reports by young respondents tend to be affected by misreporting of orphanhood status. Young orphaned children are often adopted by relatives who report them as their own children. This phenomenon artificially inflates the proportion of young respondents having a surviving parent and biases upward the estimated survivorship probabilities of younger adults through the "adoption effect".

Lastly, the estimated probabilities of survival do not, strictly speaking, refer to specific time periods since they represent average measures over the somewhat ill defined intervals of exposure to the risk of dying of the target population. However, as with the indirect estimates of child mortality, methods of calculating the average time location have had various revisions.

3.2 The Effect of HIV/AIDS on Adult Mortality

Additional obstacles in estimating adult mortality have arisen in populations with substantial mortality from HIV/AIDS. Because of vertical transmission, there is evidence of HIV-related selection bias in adult mortality based on orphanhood data. This bias is a function of seroprevalence among women of childbearing age, the vertical transmission rate and the amount by which fertility is reduced in infected women.

Another HIV-related bias in orphanhood estimates is that the data are usually converted into conventional life table indices of mortality using a set of coefficients based on very different age

patterns of mortality in adulthood from those found in populations experiencing an HIV/AIDS epidemic. Since most deaths from AIDS are among young adults, the epidemic produces age patterns of mortality that differ from those in the mortality models used to estimate the coefficients of the estimation equations.

As with child survival data, a comprehensive solution to these problems has yet to be devised, but a first step was made by Timaeus and Nunn (1997). Using data from the Masaka study area in Uganda, they have developed (a) a simple equation for correcting for the selection bias, and (b) revised regression coefficients, given the altered shape of the mortality curve, for converting proportions of persons with mother alive into female probabilities of survival. The latter, however, were again based on the assumption that the epidemic had stabilised, and a corresponding set of coefficients for male mortality has not yet been calculated. To circumvent the effect of HIV/AIDS on adult mortality, the adjustments as proposed by Timaeus were used in the estimation.

3.3 Proportions of Persons with Surviving Parents

Chapter 2 provided an analysis of childhood mortality—mortality during the first 5 years of life. This chapter discusses the patterns and levels of adult mortality. The relevance of this chapter stems from the fact that adult mortality is likely to have risen in the recent past mainly due to high prevalence of HIV/AIDS. The 1999 Population and Housing Census questionnaire contained two orphanhood questions. The questions solicited information on whether the father (or mother) is alive. The data on orphanhood yield proportions of persons with father (or mother) alive.

The data collected from the census show that proportions of persons with mother alive declined between 1989 and 1999 from 0.871 to 0.862 for males and from 0.860 to 0.843 for females. The decline is mainly evident among young people under 30 years. Those over 30 years old show increased proportions with mother alive. The analysis by sex depicts no significant difference below age 20 years; for those aged above 20 years, females have lower proportions of mothers alive than their male counterparts. Comparison with previous census data reveals that proportions of persons with mother alive increased from 1969 to 1989 but declined slightly to a lower rate in the 1999 census. Results of the analysis are contained in Table 3.1 which gives positive changes between 1969-79 and 1979-89 but negative percentage changes during the 1989-99 intercensal period. The trend in proportions with parents alive between 1989 and 1999 is a manifestation of the deteriorating health standards in the country following the increase in HIV/AIDS related deaths among the reproductive age groups coupled with worsening health care in the country.

The proportions of persons with father alive similarly declined in 1989-1999 period just like those with mother alive. The proportions declined from 0.765 to 0.743 for males and from 0.756 to 0.731 for females between 1989 and 1999. Earlier periods (1969-79 and 1979-89) recorded increments as detailed in Table 3.2.

In all the Kenya censuses, the proportions of males with parents alive are higher than those of females in the same age groups. The difference could be attributed to misreporting of ages between the sexes. Brass reports that males have a higher tendency to exaggerate their ages than females. Due to higher age misreporting among males, further analysis of adult mortality only utilises proportions of females with father or mother alive hence omitting proportions reported by males. The proportions of males with parents alive are given in Appendices 7 and 8 for ease of comparison.

3.4 Regional Differentials in Proportions with Surviving Parents

Tables 3.3 and 3.4 show variations in proportions of females with father alive and mother alive by province and district for the 1989 and 1999 censuses. The proportions of females with mother or father alive declined in 1999. The results at provincial and district levels depict the same trend except for all districts in North Eastern province which registered increases in all age groups. All

Kenya 1999 Population and Housing Census

Table 3.1 Proportions of Persons with Mother Alive by Age and Sex of Respondent

Age Group	Proportion with Mother Alive								% Change					
	1969		1979		1989		1999		1969-79		1979-89		1989-99	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F
Total	0.813	0.805	0.848	0.838	0.871	0.860	0.862	0.843	4.3	4.2	2.7	2.6	-1.0	-1.98
0-4	0.992	0.992	0.993	0.992	0.995	0.994	0.990	0.990	0.1	0.0	0.1	0.2	-0.5	-0.4
5-9	0.981	0.981	0.985	0.985	0.986	0.986	0.975	0.975	0.4	0.4	0.1	0.1	-1.1	-1.1
10-14	0.962	0.967	0.973	0.974	0.976	0.976	0.957	0.958	1.2	0.7	0.3	0.2	-2.0	-1.9
15-19	0.929	0.932	0.953	0.950	0.959	0.957	0.940	0.937	2.6	1.9	0.6	0.7	-2.0	-2.1
20-24	0.882	0.874	0.917	0.904	0.934	0.925	0.918	0.910	4.0	3.5	1.9	2.3	-1.7	-1.7
25-29	0.819	0.797	0.866	0.852	0.899	0.885	0.889	0.877	5.8	7.0	3.8	3.9	-1.2	-0.9
30-34	0.734	0.694	0.790	0.759	0.846	0.824	0.846	0.879	7.6	9.4	7.1	8.5	0.1	0.6
35-39	0.648	0.608	0.710	0.678	0.774	0.752	0.800	0.771	9.6	11.5	9.0	10.9	2.7	2.5
40-44	0.537	0.482	0.606	0.555	0.673	0.633	0.706	0.669	12.8	15.1	11.0	14.1	4.7	5.4
45-49	0.419	0.372	0.499	0.445	0.572	0.534	0.601	0.569	19.1	19.6	14.5	19.9	4.8	6.2
50-54	0.282	0.248	0.353	0.305	0.439	0.396	0.467	0.427	25.1	23.1	24.3	29.7	6.0	7.2
55-59	0.223	0.179	0.251	0.212	0.330	0.297	0.357	0.324	12.6	18.5	31.5	40.1	7.5	8.3
60-64	0.131	0.121	0.147	0.130	0.217	0.197	0.242	0.212	12.4	7.5	47.9	51.7	10.4	6.9
65-69	0.104	0.094	0.098	0.095	0.147	0.138	0.170	0.150	-5.7	0.7	50.3	45.6	13.6	8.2
70+	0.060	0.077	0.063	0.073	0.078	0.089	0.132	0.129	4.6	-5.1	22.9	22.2	46.4	35.8
Average % Change									7.5	7.6	15.0	16.7	5.8	4.9

Table 3.2 Proportions of Persons with Father Alive by Age and Sex of Respondent

Age Group	Proportion with Father Alive								% Change °					
	1969		1979		1989		1999		1969-79		1979-89		1989-99	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F
Total	0.713	0.709	0.741	0.735	0.765	0.756	0.743	0.731	4.0	3.7	3.2	2.8	-2.6	-1.6
0-4	0.955	0.954	0.956	0.956	0.969	0.969	0.956	0.955	0.1	0.2	1.3	1.3	-1.4	-1.5
5-9	0.933	0.935	0.935	0.936	0.946	0.947	0.923	0.923	0.2	0.1	1.2	1.1	-2.5	-2.6
10-14	0.869	0.901	0.904	0.905	0.914	0.916	0.886	0.887	4.0	0.4	1.1	1.2	-3.2	-3.2
15-19	0.833	0.837	0.857	0.853	0.867	0.866	0.843	0.841	2.9	1.9	1.2	1.5	-2.8	-3.0
20-24	0.744	0.739	0.784	0.778	0.806	0.798	0.786	0.778	5.3	5.2	2.9	2.5	-2.5	-2.5
25-29	0.634	0.633	0.687	0.681	0.729	0.715	0.715	0.703	8.3	7.6	6.1	4.9	-2.0	-1.7
30-34	0.524	0.500	0.568	0.547	0.629	0.609	0.628	0.612	8.5	9.4	10.8	11.3	-0.2	0.6
35-39	0.415	0.404	0.461	0.442	0.519	0.503	0.539	0.520	11.1	9.3	12.6	13.7	3.7	3.3
40-44	0.305	0.285	0.348	0.319	0.398	0.372	0.425	0.398	14.0	12.1	14.4	16.7	6.3	6.4
45-49	0.214	0.200	0.256	0.230	0.298	0.280	0.316	0.302	19.7	14.8	16.4	21.7	5.7	7.2
50-54	0.126	0.120	0.155	0.138	0.201	0.186	0.215	0.199	22.6	15.0	29.5	34.7	6.6	6.3
55-59	0.089	0.086	0.098	0.090	0.138	0.131	0.149	0.138	10.4	4.3	41.1	45.7	6.7	4.8
60-64	0.064	0.065	0.060	0.061	0.087	0.089	0.099	0.093	-6.1	-6.3	46.1	46.2	12.1	4.0
65-69	0.050	0.057	0.041	0.049	0.065	0.068	0.072	0.069	-19.1	-14.8	60.1	40.8	9.3	1.5
70+	0.036	0.057	0.040	0.057	0.053	0.068	0.088	0.089	12.2	0.2	32.2	18.8	69.8	61.8
Average % Change									6.3	4.0	18.5	17.5	7.0	5.4

the other arid and semi-arid districts except Kajiado and Tana River also recorded increases in proportions of females with father alive between 1989 and 1999. This implies that either reporting improved in these districts in 1999 over 1989 or that mortality status improved between the two periods. The districts that recorded declines in all ages are Kiambu and Siaya. On the other hand, analysis of proportions of females with mother alive portrays more or less the same picture at national and provincial levels. All districts in North Eastern province and Baringo district show increases while Kericho district registered a decline in all age groups.

Table 3.3: Proportions of Females with Father Alive, 1989 and 1999

PROVINCE/ District	15-19		20-24		25-29		30-34		35-39		40-44		45-49	
	1989	1999	1989	1999	1989	1999	1989	1999	1989	1999	1989	1999	1989	1999
KENYA	0.866	0.8412	0.798	0.7784	0.715	0.7032	0.609	0.6123	0.503	0.5201	0.372	0.3976	0.280	0.3017
NAIROBI	0.859	0.8198	0.815	0.7873	0.746	0.7262	0.653	0.6458	0.559	0.5570	0.446	0.4558	0.351	0.3588
CENTRAL	0.878	0.8611	0.822	0.8053	0.753	0.7383	0.658	0.6599	0.554	0.5681	0.434	0.4426	0.329	0.3414
Kiambu	0.866	0.8429	0.812	0.7952	0.750	0.7288	0.664	0.6477	0.560	0.5554	0.452	0.4383	0.346	0.3366
Kirinyaga	0.880	0.8717	0.828	0.8170	0.755	0.7452	0.657	0.6648	0.557	0.5792	0.426	0.4613	0.327	0.3617
Murang'a	0.885	0.8712	0.823	0.8063	0.748	0.7332	0.651	0.6481	0.542	0.5400	0.415	0.4110	0.306	0.3067
Nyandarua	0.879	0.8585	0.836	0.8054	0.769	0.7418	0.674	0.6755	0.573	0.5927	0.446	0.4572	0.347	0.3525
Nyeri	0.884	0.8679	0.828	0.8139	0.757	0.7483	0.654	0.6690	0.551	0.5818	0.434	0.4483	0.328	0.3466
Thika	-	0.8538	-	0.7987	-	0.7332	-	0.6566	-	0.5679	-	0.4466	-	0.3494
Maragua	-	0.8774	-	0.8113	-	0.7430	-	0.6595	-	0.5525	-	0.4275	-	0.3317
COAST	0.854	0.8258	0.787	0.7539	0.699	0.6760	0.583	0.5827	0.471	0.4820	0.334	0.3602	0.246	0.2734
Kilifi	0.849	0.8220	0.780	0.7421	0.694	0.6556	0.578	0.5776	0.461	0.4650	0.329	0.3580	0.251	0.2651
Kwale	0.855	0.8347	0.781	0.7527	0.699	0.6689	0.582	0.5691	0.479	0.4734	0.347	0.3555	0.254	0.2697
Lamu	0.876	0.8550	0.799	0.7946	0.718	0.6919	0.587	0.6001	0.470	0.4972	0.326	0.3631	0.267	0.2697
Mombasa	0.856	0.8153	0.794	0.7580	0.708	0.6903	0.596	0.5961	0.480	0.4996	0.349	0.3806	0.236	0.2995
Taita Taveta	0.865	0.8242	0.805	0.7585	0.718	0.6806	0.596	0.5921	0.481	0.4939	0.334	0.3583	0.243	0.2671
Tana River	0.841	0.8244	0.764	0.7392	0.654	0.6493	0.533	0.5343	0.440	0.4412	0.271	0.3110	0.217	0.2375
Malindi	-	0.8372	-	0.7605	-	0.6896	-	0.5956	-	0.5018	-	0.3683	-	0.2783
EASTERN	0.885	0.8629	0.826	0.8057	0.750	0.7315	0.646	0.6470	0.539	0.5617	0.397	0.4347	0.303	0.3333
Embu	0.903	0.8840	0.852	0.8359	0.779	0.7733	0.671	0.6963	0.557	0.6163	0.417	0.4798	0.310	0.3776
Isiolo	0.799	0.8165	0.685	0.7269	0.572	0.6389	0.418	0.5055	0.323	0.3959	0.208	0.2824	0.136	0.1878
Kiltui	0.864	0.8306	0.804	0.7622	0.725	0.6883	0.622	0.6209	0.512	0.5359	0.356	0.4167	0.272	0.3132
Makueni	-	0.8536	-	0.7965	-	0.7215	-	0.6340	-	0.5573	-	0.4326	-	0.3305
Machakos	0.886	0.8572	0.828	0.7969	0.759	0.7267	0.673	0.6487	0.563	0.5790	0.430	0.4719	0.329	0.3620
Marsabit	0.743	0.7770	0.648	0.6833	0.535	0.5708	0.405	0.4589	0.306	0.3362	0.197	0.2194	0.148	0.1360
Mbeere	-	0.8778	-	0.8210	-	0.7518	-	0.6790	-	0.5822	-	0.4420	-	0.3518
Meru Central	-	0.9035	-	0.8567	-	0.7849	-	0.7100	-	0.6153	-	0.4799	-	0.3804
Moyale	-	0.8056	-	0.7133	-	0.6169	-	0.4520	-	0.3644	-	0.2377	-	0.1888
Mwingi	-	0.8385	-	0.7793	-	0.7119	-	0.6336	-	0.5545	-	0.4203	-	0.3200
Meru North	-	0.8834	-	0.8308	-	0.7522	-	0.6512	-	0.5485	-	0.4094	-	0.3012
Tharaka	-	0.8536	-	0.7817	-	0.7105	-	0.6254	-	0.5121	-	0.3650	-	0.2787
Nithi (Meru S.)	-	0.9146	-	0.8601	-	0.7882	-	0.7117	-	0.6127	-	0.4973	-	0.3749
N/EASTERN	0.840	0.8403	0.739	0.7851	0.627	0.7219	0.497	0.6084	0.414	0.5321	0.271	0.3928	0.210	0.3308
Garissa	0.846	0.8316	0.752	0.7805	0.648	0.7274	0.524	0.6259	0.427	0.5479	0.283	0.4030	0.207	0.3417
Mandera	0.836	0.8494	0.740	0.7883	0.622	0.7227	0.490	0.5974	0.424	0.5187	0.291	0.3939	0.242	0.3279
Wajir	0.837	0.8409	0.725	0.7872	0.610	0.7163	0.476	0.6016	0.389	0.5298	0.240	0.3834	0.183	0.3236
NYANZA	0.830	0.7790	0.738	0.7016	0.641	0.6106	0.528	0.5076	0.410	0.4163	0.288	0.3013	0.202	0.2168
Gucha (Kisii S.)	-	0.8446	-	0.7707	-	0.6654	-	0.5788	-	0.4825	-	0.3767	-	0.2752
Homa Bay	-	0.7432	-	0.6591	-	0.5707	-	0.4738	-	0.3794	-	0.2839	-	0.1925
Kisii Central	-	0.8208	-	0.7395	-	0.6302	-	0.5343	-	0.4309	-	0.3125	-	0.2465
Kisumu	-	0.7421	-	0.6772	-	0.6005	-	0.4932	-	0.4052	-	0.2934	-	0.2063
Kuria	-	0.8197	-	0.7486	-	0.6715	-	0.5930	-	0.4942	-	0.3908	-	0.3055
Migori	-	0.7530	-	0.6826	-	0.5973	-	0.5026	-	0.4166	-	0.2991	-	0.2143
Nyamira (Kisii N.)	-	0.8490	-	0.7625	-	0.6611	-	0.5637	-	0.4741	-	0.3577	-	0.2795
Rachuonyo	-	0.7473	-	0.6687	-	0.5765	-	0.4777	-	0.3951	-	0.2769	-	0.1943
Siaya	0.829	0.7334	0.722	0.6458	0.613	0.5558	0.491	0.4525	0.372	0.3542	0.248	0.2429	0.163	0.1675
Suba	-	0.7451	-	0.6675	-	0.5922	-	0.4831	-	0.3910	-	0.2927	-	0.2160
Bondo	-	0.7304	-	0.6542	-	0.5656	-	0.4549	-	0.3598	-	0.2653	-	0.1838
Nyando	-	0.7484	-	0.6607	-	0.5799	-	0.4724	-	0.3799	-	0.2710	-	0.1900
R/VALLEY	0.866	0.8592	0.800	0.7949	0.712	0.7164	0.608	0.6239	0.506	0.5322	0.380	0.4116	0.293	0.3130
Baringo	0.862	0.8787	0.787	0.8045	0.687	0.7128	0.553	0.5947	0.459	0.4792	0.325	0.3526	0.246	0.2464
Bomet	-	0.8733	-	0.8195	-	0.7654	-	0.6740	-	0.5804	-	0.4754	-	0.3709
Keiyo	-	0.8882	-	0.8322	-	0.7616	-	0.6739	-	0.5771	-	0.4621	-	0.3595
Kajiado	0.844	0.8375	0.790	0.7786	0.694	0.7069	0.574	0.6219	0.465	0.5230	0.326	0.3883	0.262	0.3007
Kericho	0.867	0.8438	0.804	0.7836	0.719	0.7026	0.634	0.6198	0.538	0.5340	0.409	0.4283	0.307	0.3274
Koibatek	-	0.8899	-	0.8365	-	0.7666	-	0.6760	-	0.5771	-	0.4587	-	0.3676
Laikipia	0.882	0.8668	0.824	0.8002	0.751	0.7347	0.644	0.6603	0.549	0.5646	0.438	0.4479	0.329	0.3328
Marakwet	-	0.9053	-	0.8508	-	0.7700	-	0.6703	-	0.5783	-	0.4438	-	0.3559
Nakuru	0.872	0.8546	0.820	0.8011	0.743	0.7321	0.650	0.6510	0.552	0.5701	0.429	0.4495	0.342	0.3505
Nandi	0.881	0.8706	0.816	0.8048	0.741	0.7356	0.645	0.6508	0.537	0.5663	0.402	0.4337	0.309	0.3284
Narok	0.854	0.8477	0.789	0.7798	0.713	0.7011	0.596	0.5974	0.502	0.4934	0.366	0.3794	0.271	0.2831
Samburu	0.767	0.7883	0.695	0.6953	0.580	0.5937	0.466	0.4986	0.373	0.3933	0.238	0.2670	0.165	0.1899
Trans Mara	-	0.9018	-	0.8573	-	0.7910	-	0.7191	-	0.6293	-	0.5366	-	0.4083
Trans Nzoia	0.891	0.8761	0.832	0.8146	0.749	0.7371	0.658	0.6486	0.550	0.5566	0.410	0.4465	0.318	0.3393
Turkana	0.630	0.8173	0.830	0.7203	0.487	0.5874	0.354	0.4385	0.270	0.3523	0.185	0.2332	0.137	0.1725
Uasin Gishu	0.891	0.8695	0.832	0.8163	0.763	0.7536	0.673	0.6712	0.571	0.5833	0.447	0.4706	0.359	0.3624
West Pokot	0.842	0.8637	0.743	0.7534	0.624	0.6636	0.517	0.5458	0.388	0.4511	0.284	0.3268	0.202	0.2211
Buret	-	0.8593	-	0.7910	-	0.7061	-	0.6268	-	0.5293	-	0.4352	-	0.3548
WESTERN	0.884	0.8635	0.808	0.7896	0.714	0.7043	0.582	0.6099	0.465	0.5194	0.385	0.4025	0.283	0.2960
Bungoma	0.891	0.8877	0.828	0.8147	0.759	0.7404	0.681	0.6560	0.572	0.5811	0.459	0.4655	0.338	0.3548
Busia	0.853	0.8035	0.761	0.7138	0.664	0.6246	0.543	0.5152	0.423	0.4189	0.284	0.3023	0.206	0.2007
Mt. Elgon	-	0.8872	-	0.8145	-	0.7390	-	0.6730	-	0.5635	-	0.4735	-	0.3409
Kakamega	0.899	0.8733	0.813	0.8003	0.731	0.7113	0.633	0.6111	0.525	0.5204	0.386	0.3971	0.285	0.2951
Lugari	-	0.8828	-	0.8171	-	0.7411	-	0.6393	-	0.5638	-	0.4596	-	0.3428
Teso	-	0.8351	-	0.7613	-	0.6737	-	0.5792	-	0.4979	-	0.3691	-	0.2664
Vihiga	-	0.8625	-	0.7973	-	0.7169	-	0.6194	-	0.5301	-	0.4064	-	0.3095
Butere Mumias	-	0.8463	-	0.7716	-	0.6626	-	0.5747	-	0.4735	-	0.3463	-	0.2440

Note: Districts without values for 1979-69 were created after the 1989 census.

Kenya 1999 Population and Housing Census

Table 3.4: Proportions of Females with Mother Alive, 1989 and 1999

PROVINCE/ District	15- 19		20- 24		25-29		30-34		35-39		40- 44		45-49	
	1989	1999	1989	1999	1989	1999	1989	1999	1989	1999	1989	1999	1989	1999
KENYA	0.957	0.9373	0.925	0.9096	0.885	0.8773	0.824	0.8287	0.752	0.7713	0.633	0.6689	0.280	0.5691
NAIROBI	0.953	0.9208	0.934	0.9096	0.905	0.8901	0.858	0.8508	0.794	0.8026	0.714	0.7285	0.351	0.6379
CENTRAL	0.969	0.9577	0.946	0.9343	0.918	0.9088	0.870	0.8754	0.805	0.8249	0.702	0.7373	0.329	0.6421
Kiambu	0.967	0.9503	0.945	0.9284	0.917	0.9065	0.875	0.8760	0.818	0.8317	0.721	0.7474	0.346	0.6580
Kirinyaga	0.968	0.9650	0.941	0.9398	0.911	0.9111	0.862	0.8721	0.780	0.8251	0.673	0.7342	0.327	0.6313
Murang'a	0.970	0.9571	0.947	0.9362	0.918	0.9063	0.873	0.8703	0.803	0.8191	0.694	0.7174	0.306	0.6235
Nyandarua	0.973	0.9643	0.950	0.9362	0.922	0.9107	0.869	0.8811	0.817	0.8328	0.726	0.7484	0.347	0.6570
Nyeri	0.969	0.9602	0.949	0.9405	0.922	0.9139	0.862	0.8799	0.799	0.8248	0.694	0.7379	0.328	0.6367
Thika	-	0.9535	-	0.9282	-	0.9052	-	0.8745	-	0.8199	-	0.7422	-	0.6460
Maragua	-	0.9589	-	0.9387	-	0.9090	-	0.8683	-	0.8164	-	0.7222	-	0.6362
COAST	0.945	0.9240	0.913	0.8932	0.868	0.8563	0.794	0.8049	0.708	0.7379	0.572	0.6262	0.246	0.5192
Kilifi	0.953	0.9416	0.921	0.9112	0.877	0.8752	0.811	0.8333	0.726	0.7687	0.591	0.6573	0.251	0.5351
Kwale	0.941	0.9203	0.898	0.8873	0.858	0.8416	0.766	0.7732	0.671	0.6973	0.534	0.5813	0.254	0.4730
Lamu	0.933	0.9232	0.902	0.8866	0.850	0.8501	0.765	0.7686	0.676	0.7068	0.542	0.5916	0.267	0.4810
Mombasa	0.946	0.9069	0.920	0.8841	0.878	0.8538	0.813	0.8095	0.727	0.7467	0.602	0.6499	0.236	0.5488
Taita Taveta	0.953	0.9274	0.929	0.9003	0.880	0.8643	0.812	0.8241	0.734	0.7569	0.582	0.6383	0.243	0.5185
Tana River	0.915	0.9045	0.859	0.8515	0.802	0.8072	0.707	0.7268	0.639	0.6585	0.505	0.5154	0.217	0.4424
Malindi	-	0.9486	-	0.9170	-	0.8814	-	0.8313	-	0.7693	-	0.6638	-	0.5720
EASTERN	0.965	0.9510	0.934	0.9267	0.898	0.8961	0.838	0.8522	0.771	0.7992	0.649	0.7012	0.549	0.5961
Embu	0.971	0.9640	0.947	0.9393	0.914	0.9187	0.850	0.8749	0.782	0.8252	0.658	0.7375	0.310	0.6104
Isiolo	0.914	0.9160	0.845	0.8700	0.803	0.8210	0.707	0.7355	0.595	0.6632	0.501	0.5495	0.136	0.4503
Kitui	0.959	0.9397	0.929	0.9130	0.890	0.8853	0.831	0.8475	0.761	0.7961	0.620	0.6891	0.272	0.5987
Makueni	-	0.9440	-	0.9212	-	0.8954	-	0.8617	-	0.8144	-	0.7334	-	0.6310
Machakos	0.967	0.9476	0.939	0.9263	0.911	0.9034	0.866	0.8667	0.802	0.8264	0.696	0.7509	0 329	0.6562
Marsabit	0.928	0.9370	0.868	0.8888	0.807	0.8395	0.721	0.7724	0.655	0.6811	0.536	0.5759	0.148	0.4241
Mbeere	-	0.9604	-	0.9368	-	0.9016	-	0.8675	-	0.8037	-	0.7103	-	0.5895
Meru Central	-	0.9655	-	0.9442	-	0.9145	-	0.8769	-	0.8186	-	0.7099	-	0.6076
Moyale	-	0.9058	-	0.8678	-	0.8067	-	0.6865	-	0.6527	-	0.5203	-	0.4248
Mwingi	-	0.9453	-	0.9209	-	0.8940	-	0.8551	-	0.8089	-	0.6988	-	0.5808
Meru North	-	0.9624	-	0.9332	-	0.8904	-	0.8315	-	0.7569	-	0.6303	-	0.4997
Tharaka	-	0.9432	-	0.9245	-	0.8780	-	0.8138	-	0.7545	-	0.6017	-	0.4863
Nithi (Meru S.)	-	0.9698	-	0.9462	-	0.9147	-	0.8642	-	0.8171	-	0.7333	-	0.6248
N/EA	0.913	0.9169	0.851	0.8661	0.781	0.8000	0.682	0.7073	0.599	0.6440	0.466	0.5186	0.402	0.4485
Garissa	0.914	0.9102	0.857	0.8643	0.790	0.8096	0.679	0.7178	0.592	0.6716	0.464	0.5432	0.398	0.4530
Mandera	0.916	0.9273	0.859	0.8693	0.789	0.8046	0.700	0.7202	0.631	0.6457	0.500	0.5326	0.447	0.4694
Wajir	0.910	0.9147	0.837	0.8653	0.782	0.7879	0.667	0.6882	0.577	0.6197	0.437	0.4863	0.364	0.4262
NYANZA	0.948	0.9030	0.909	0.8708	0.862	0.8357	0.793	0.7795	0.703	0.7164	0.569	0.6918	0.461	0.4927
Gucha (Kisii S.)	-	0.9518	-	0.9226	-	0.8814	-	0.8298	-	0.7663	-	0.6750	-	0.5707
Homa Bay	-	0.8726	-	0.8368	-	0.8036	-	0.7499	-	0.6741	-	0.5523	-	0.4458
Kisii	-	0.9408	-	0.9055	-	0.8588	-	0.8090	-	0.7437	-	0.6378	-	0.5504
Kisumu	-	0.8725	-	0.8466	-	0.8152	-	0.7642	-	0.7067	-	0.5951	-	0.4858
Kuria	-	0.9333	-	0.8973	-	0.8585	-	0.8205	-	0.7628	-	0.6492	-	0.5652
Migori	-	0.8791	-	0.8551	-	0.8247	-	0.7663	-	0.6983	-	0.5836	-	0.4695
Nyamira (Kisii N)	-	0.9524	-	0.9189	-	0.8759	-	0.8223	-	0.7721	-	0.6751	-	0.5796
Rachuonyo	-	0.8838	-	0.8461	-	0.8121	-	0.7534	-	0.6987	-	0.5645	-	0.4460
Siaya	0.944	0.8726	0.899	0.8348	0.850	0.7985	0.778	0.7382	0.683	0.6603	0.541	0.5461	0.429	0.4339
Suba	-	0.8808	-	0.8393	-	0.8226	-	0.7785	-	0.7071	-	0.5893	-	0.4764
Bondo	-	0.8670	-	0.8335	-	0.8140	-	0.7653	-	0.6925	-	0.6028	-	0.4831
Nyando	-	0.8791	-	0.8416	-	0.8084	-	0.7556	-	0.6861	-	0.5655	-	0.4600
R/VALLEY	0.958	0.9521	0.926	0.9216	0.883	0.8851	0.823	0.8349	0.757	0.7771	0.651	0.6797	0.561	0.5790
Baringo	0.948	0.9561	0.910	0.9134	0.849	0.8653	0.771	0.7953	0.699	0.7254	0.591	0.6002	0.472	0.4986
Bomet	-	0.9657	-	0.9449	-	0.9214	-	0.8899	-	0.8457	-	0.7805	-	0.6726
Keiyo	-	0.9582	-	0.9225	-	0.8901	-	0.8376	-	0.7831	-	0.6948	-	0.5892
Kajiado	0.957	0.9455	0.935	0.9204	0.900	0.8927	0.834	0.8577	0.769	0.7908	0.649	0.7055	0.565	0.6143
Kericho	0.962	0.9457	0.933	0.9199	0.898	0.8873	0.857	0.8434	0.802	0.7902	0.715	0.7033	0.632	0.6148
Koibatek	-	0.9540	-	0.9331	-	0.8986	-	0.8532	-	0.7980	-	0.7067	-	0.5901
Laikipia	0.966	0.9567	0.939	0.9300	0.910	0.9028	0.857	0.8593	0.791	0.8157	0.698	0.7264	0.591	0.6360
Nakuru	0.964	0.9483	0.937	0.9217	0.905	0.8945	0.859	0.8570	0.799	0.8090	0.699	0.7281	0.616	0.6314
Marakwet	-	0.9626	-	0.9297	-	0.8867	-	0.8404	-	0.7763	-	0.6678	-	0.5566
Nandi	0.962	0.9526	0.933	0.9238	0.897	0.8909	0.842	0.8488	0.780	0.7974	0.693	0.7025	0.609	0.6075
Narok	0.964	0.9569	0.935	0.9286	0.905	0.9010	0.848	0.8578	0.784	0.8003	0.676	0.6985	0.577	0.5983
Samburu	0.947	0.9400	0.916	0.9039	0.871	0.8617	0.820	0.8087	0.730	0.7446	0.584	0.6201	0.469	0.4973
Trans Mara	-	0.9595	-	0.9304	-	0.8921	-	0.8459	-	0.8030	-	0.7147	-	0.6106
Trans Nzoia	0.961	0.9506	0.930	0.9190	0.881	0.8830	0.830	0.8394	0.768	0.7914	0.645	0.7048	0.561	0.6015
Turkana	0.936	0.9540	0.838	0.9037	0.726	0.8050	0.599	0.6707	0.497	0.5641	0.381	0.4152	0.284	0.3236
Uasin Gishu	0.962	0.9501	0.935	0.9227	0.898	0.8921	0.849	0.8475	0.796	0.8013	0.693	0.7153	0.605	0.6346
West Pokot	0.933	0.9433	0.886	0.8894	0.814	0.8437	0.734	0.7683	0.696	0.6938	0.513	0.5662	0.405	0.4278
Buret	-	0.9567	-	0.9314	-	0.8970	-	0.8620	-	0.8056	-	0.7291	-	0.6541
WESTERN	0.955	0.9387	0.918	0.9064	0.880	0.8688	0.825	0.8177	0.752	0.7816	0.629	0.6633	0.510	0.5554
Bungoma	0.958	0.9518	0.922	0.9208	0.895	0.8898	0.848	0.8401	0.788	0.7964	0.693	0.7115	0.574	0.6145
Busia	0.938	0.9022	0.892	0.8661	0.840	0.8268	0.765	0.7705	0.677	0.7071	0.512	0.5883	0.414	0.4696
MI. Elgon	-	0.9538	-	0.9293	-	0.9004	-	0.8473	-	0.8063	-	0.7238	-	0.6319
Kakamega	0.958	0.9429	0.924	0.9117	0.884	0.8703	0.832	0.8252	0.758	0.7631	0.639	0.6645	0.514	0.5541
Lugari	-	0.9506	-	0.9205	-	0.8861	-	0.8391	-	0.7935	-	0.7180	-	0.6034
Teso	-	0.9170	-	0.8747	-	0.8322	-	0.7777	-	0.7056	-	0.6035	-	0.4793
Vihiga	-	0.9414	-	0.9126	-	0.8755	-	0.8179	-	0.7656	-	0.6648	-	0.5586
Butere Mumias	-	0.9314	-	0.8978	-	0.8515	-	0.8035	-	0.7337	-	0.6199	-	0.5173

Note: Districts without values for 1979-89 were created after the 1989 census

3.5 Estimates of Adult Mortality

From orphanhood data, proportions of respondents whose parents are still alive yield plausible estimates of adult mortality. Brass and Hill (1973) formulated a method of estimation based on this type of data by establishing an equation relating the probability of surviving from a base age B (35 in the case of fathers and 25 in that of mothers) to an age B+n (where n is the age forming the lower bound of the respondent's 5-year age group) to the proportions of respondents in two contiguous 5-year age groups whose parent was still alive at the time of the interview. These probabilities of survival are denoted by $l(B+n)/l(B)$ in life table notations.

Misreporting of orphanhood status tends to affect survivorship estimates based on reports by young respondents. This phenomenon artificially inflates proportions of young respondents having a surviving parent and hence biases upward the estimated survivorship probabilities of young adults. Due to this reason, data from young respondents were not used in estimating adult mortality.

While investigations of the Brass and Hill weighting factors reveal that they are very robust for female adult mortality and acceptably so for male adult mortality, indications are that some inaccuracy accrues from the use of a regression-based method. Regression equations developed by Timaeus (1990) with subsequent modifications (Timaeus 1992, Timaeus and Nunn 1997) were used in the estimation.

The regression equations require estimates of the mean ages of fathers and mothers at the birth of their children (M). For mothers, M was obtained by calculating the average age of women bearing children during the 12 months before the census. For fathers, M had to be estimated indirectly by adding to the female M the average of: a) the difference between the singulate mean age at marriage (SMAM) of males and females, and b) the difference between the median ages of married men and married women.

Proportions of females with parents alive were converted into life table survivorship probabilities. Such probabilities provide the basis for the construction of life tables for the population.

An extension of this approach is the use of the intercensal hypothetical cohort procedure: the changes in the proportions with parent alive for the same cohorts of respondents in successive censuses are strung together in such a way as to produce a series of proportions with father or mother alive by age for a cohort of persons going through life experiencing the mortality during the intercensal period. These proportions are then converted into values of $l(B+n)/l(B)$ in the same way as before, but this time all referring to the same time period. The results from this procedure are presented in Table 3.5 for three intercensal periods.

Table 3.5 Proportions of Persons with Father/Mother Alive for Hypothetical Cohorts

Age Group	Father Alive			% Change		Mother Alive			% Change	
	1969-79	1979-89	1989-99			1969-79	1979-89	1989-99		
0-4	0.9562	0.9685	0.9547	1.3	-1.4	0.9929	0.9942	0.9896	0.1	-0.5
5-9	0.9354	0.9467	0.9234	1.2	-2.5	0.9853	0.9861	0.9456	0.1	-4.1
10-14	0.9070	0.9274	0.8353	2.3	-9.9	0.9742	0.9777	0.9085	0.4	-7.1
15-19	0.8532	0.8763	0.7930	2.7	-9.5	0.9545	0.9577	0.8671	0.3	-9.5
20-24	0.7808	0.8179	0.7044	4.8	-13.9	0.9111	0.9291	0.8307	2.0	-10.6
25-29	0.6941	0.7344	0.6440	5.8	-12.3	0.8721	0.8927	0.7949	2.4	-11.0
30-34	0.5772	0.6419	0.5406	11.2	-15.8	0.7915	0.8464	0.7440	6.9	-12.1
35-39	0.4854	0.5426	0.4686	11.8	-13.6	0.7417	0.7879	0.6925	6.2	-12.1
40-44	0.3675	0.4377	0.3530	19.1	-19.4	0.6331	0.7062	0.6041	11.5	-14.5
45-49						0.5432	0.6205	0.5242	14.2	-15.5
50-54						0.4006	0.5034	0.4070	25.7	-19.1
		Average		6.7	-10.9				6.3	-10.5

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While proportions with surviving parents for the 1969-79 and 1979-89 hypothetical cohorts show a decline in adult mortality, there is strong evidence to suggest a rise of about 11 % during the 1989-99 intercensal period. The rise in mortality was experienced by both sexes and in all ages.

A similar rise in adult mortality during the 1989-99 period was also evident through the survivorship probabilities of adult males and females although to a relatively higher degree than that shown by proportions with parent alive (see Table 3.6).

Table 3.6 Survival Probabilities for Adult Males and Females for Hypothetical Cohorts

Males			%Change		Females			% Change	
1(35+n)/l(35)					25+n)/l(25)				
35+n	1969-79	1979-89	1989-99		25+n	1969-79	1979-89	1989-99	
35					35	0.9674	0.9718	0.9008	0.5 -7.3
40					40	0.9494	0.9530	0.9011	0.4 -5.4
45	0.9082	0.9183	0.9585	1.1 -4.4	45	0.9072	0.9262	0.8355	2.1 -9.8
50	0.8960	0.9187	0.8103	2.5 -11.8	50	0.8717	0.8929	0.7820	2.4 -12.4
55	0.8301	0.8582	0.7452	3.4 -13.2	55	0.7946	0.8509	0.7032	7.1 -17.4
60	0.7432	0.7826	0.6455	5.3 -17.5	60	0.7499	0.7980	0.6388	6.4 -19.9
65	0.6246	0.6883	0.5077	10.2 -26.2	65	0.6427	0.7218	0.5663	12.3 -21.5
70	0.5024	0.5758	0.3952	14.6 -31.4	70	0.5507	0.6386	0.4807	16.0 -24.7
75	0.3640	0.4441	0.2688	22.0 -39.5	75	0.3881	0.5091	0.3967	31.2 22.1
Average			8.4 -19.3					8.7 -15.6	

Chapter 4

Life Tables

4.1 Construction of Life Tables

Linking estimates of child mortality with those of adult mortality and smoothing any irregularities are functions performed by model life tables. In this case, $q(5)$ values derived from the proportions of the children dead for the 1989-99 hypothetical cohorts and survival probabilities of the adult population, also computed for the 1989-99 intercensal cohorts, were linked by model life tables constructed separately for males and females. To do this, the Brass et al (1968) two-parameter logit life table system was used.

In essence, the logit life table system consists of taking a standard life table and modifying it mathematically until it fits the empirical data. Of the two parameters used in the modification process, the first, alpha, determines the overall level of mortality, while the second parameter, beta, determines the steepness with which mortality increases with age (or the relationship between child and adult mortality); i.e., a high value of beta signifies lower child mortality relative to adult mortality and vice versa. The values of alpha and beta that were used are shown in Appendix 8.

Although any standard life table may be used in the modification process, the "African" standard as proposed by Brass (1968) was used. However due to the effect of HIV/AIDS on the age pattern of the affected population, the "African" standard was accordingly modified to take into account the HIV prevalence at the mid-point of the 1989-99 intercensal period.

4.2 National Life Table Estimates

Using the methods described above, life tables at national level were constructed for hypothetical cohorts for the 1989-99 intercensal period. The resultant number of survivors and their corresponding expectation of life are compared with those pertaining to earlier intercensal periods of 1969-79 and 1979-89 as presented in Tables 4.1 and 4.2.

Between the 1969-79 and 1979-89 intercensal periods, there was a general increase in the number of survivors of all ages for both males and females. However, there was a reverse in the period between 1979-89 and 1989-99 whereby mortality increased across all ages for both males and females.

A similar reversal in the mortality trend was also evident from the expectation of life. Census data show an increase in the expectation of life during the 1970s through the 1980s and then an overall decline of about 11% for males and 10% for females during the 1990s.

4.3 Regional Life Table Estimates

Life tables for provinces and districts were constructed and are presented in Appendix 9. Let it be noted that estimates pertaining to the districts created after the 1989 census have to be treated with caution. The $q(5)$ values and the adult mortality estimates used to generate life tables for these

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Table 4.1 Life Tables for Males: 1969-79,1979-89 and 1989-99

Age	Life Table Survivors			% Change		Expectation of Life			% Change	
	1969-79	1979-89	1989-99			1969-79	1979-89	1989-99		
0	1000	1000	1000			52.3	57.9	52.8	10.8	-8.8
1	908	932	921	2.7	-1.2	56.6	61.1	56.4	8.1	-7.7
5	843	883	881	4.7	-0.2	56.8	60.5	54.8	6.4	-9.4
10	818	863	860	5.6	-0.3	53.5	56.8	51.1	6.1	-10.0
15	808	856	852	5.9	-0.5	49.1	52.3	46.6	6.4	-10.9
20	791	843	838	6.5	-0.6	45.1	48.0	42.3	6.5	-11.9
25	769	825	818	7.3	-0.8	41.3	44.0	38.3	6.5	-13.0
30	747	807	792	8.0	-1.9	37.5	39.9	34.5	6.5	-13.5
35	725	789	756	8.9	-4.2	33.5	35.8	31.0	6.7	-13.4
40	700	769	714	9.8	-7.2	29.6	31.7	27.7	6.8	-12.6
45	672	745	669	10.9	-10.2	25.8	27.6	24.4	7.0	-11.6
50	637	715	621	12.2	-13.1	22.1	23.6	21.0	7.2	-11.0
55	594	677	569	14.0	-16.0	18.5	19.8	17.7	7.4	-10.6
60	538	626	509	16.3	-18.7	15.1	16.2	14.5	7.4	-10.5
65	467	558	436	19.6	-21.9	12.1	12.9	11.6	7.1	-10.1
70	376	467	346	24.0	-25.9	9.4	10.0	8.9	6.4	-11.0
75	270	350	241	29.9	-31.1	7.1	7.5	6.7	5.2	-10.7
80	159	218	135	37.1	-38.1	5.3	5.5	5.0	3.5	-9.1
85	68	99	54	44.5	-45.5	4.0	4.1	3.8	1.8	-7.3
Average				14.1	-13.2	Average			6.5	-10.7

Table 4.2 Life Tables for Females: 1969-79,1979-89 and 1989-99

Age	Life Table Survivors			% Change		Expectation of Life			% Change	
	1969-79	1979-89	1989-99			1969-79	1979-139	1989-99		
0	1000	1000	1000			60.0	65.9	60.4	9.9	-8.3
1	903	927	925	2.8	0.2	65.4	70.0	64.3	7.1	-8.1
5	855	892	887	4.3	-0.6	64.9	68.7	63.0	5.9	-8.3
10	838	879	873	4.9	-0.7	61.2	64.7	59.0	5.7	-8.8
15	831	874	867	5.2	-0.8	56.7	60.1	54.3	6.0	-9.7
20	820	866	858	5.5	-0.9	52.4	55.6	49.9	6.2	-10.3
25	806	855	839	6.1	-1.9	48.3	51.3	45.9	6.3	-10.5
30	792	844	815	6.6	-3.4	44.1	46.9	42.2	6.4	-10.0
35	777	833	789	7.1	-5.3	39.9	42.5	38.6	6.7	-9.2
40	762	820	762	7.7	-7.1	35.7	38.1	34.8	7.0	-8.7
45	743	806	736	8.4	-8.7	31.5	33.8	30.9	7.3	-8.6
50	721	789	709	9.3	-10.1	27.3	29.5	27.0	7.8	-8.5
55	694	766	679	10.4	-11.4	23.3	25.3	23.1	8.2	-8.7
60	657	736	643	12.0	-12.6	19.5	21.2	19.3	8.6	-9.0
65	608	694	596	14.2	-14.1	15.9	17.3	15.6	9.0	-9.8
70	541	635	530	17.4	-16.5	12.5	13.7	12.2	9.2	-10.9
75	451	551	440	22.2	-20.1	9.5	10.4	9.2	9.0	-11.5
80	334	432	321	29.5	-25.7	7.0	7.6	6.7	7.0	-11.8
85	200	280	185	40.1	-33.9	5.1	5.3	4.8	5.7	-9.4
Average				11.3	-9.7	Average			7.4	-9.5

Note Because of a recent adjustment to incorporate the effects of HIV on mortality, the current estimates differ from others published earlier

districts were based on the 1989 mortality levels of the larger districts from which the new ones were carved.

4.4 Expectation of Life

Expectation of life at birth for males increased by about 5.6 years (from 52.3 to 57.9) between the intercensal periods 1969-79 and 1979-89 and then dropped by 5.1 years to stand at 52.8 years during the 1989-99 intercensal period. For the corresponding intercensal periods, females experi-

enced an initial gain (from 60.0 to 65.9) in their expectation of life at birth. This dropped to 60.4 years by the 1989-99 period.

4.5 Expectation of Life by District

Table 4.3 shows estimates of life expectancy at birth by districts. The declining pattern of the expectation of life for Kenyan males is also clearly reflected at the provincial level. The same is also true for the females except for those in Rift Valley province where expectation of life for women increased slightly from 62.8 years in 1979-89 period to 66.4 years during the 1989-99 intercensal period. A total of 21 districts had an expectation of life lower than the national (55.9 years) while 45 districts had values higher than the national figure. All the districts in Coast (except Lamu and Taita Taveta), Nyanza (except Gucha and Nyamira) and Western (except Bungoma, Lugari and Mt. Elgon) provinces had an expectation of life below the national figure. While all the districts in Central (except Thika), Eastern (except Tharaka), Rift Valley (except Nakuru), and North Eastern provinces had life expectation at birth higher than the national figure.

The district with the highest life expectancy was Embu with 66.3 years followed by Keiyo with 66.2 years and Bomet with 66.1 years. The district with the lowest expectation of life was Homa Bay with 38.3 years followed closely by Suba with 39.3 years. The expectation of life at birth is consistently higher for females as compared to males in all the districts except Trans Mara and all of North Eastern province.

Table 4.3 Expectation of Life at Birth by Sex and District, 1979-89 and 1989-99

PROVINCE/ District	Life Expectancy at Birth					
	Males		Females		Both	
	1979-89	1989-99	1979-89	1989-99	1979-89	1989-99
KENYA	57.9	52.8	65.9	60.4	61.9	56.6
NAIROBI	65.3	54.1	66.8	59.8	66.1	57.0
CENTRAL	67.7	60.4	69.1	68.0	68.4	64.2
Kiambu	66.7	53.4	69.0	59.2	67.9	56.3
Kirinyaga	66.7	58.3	68.6	67.3	67.7	62.8
Maragua	-	60.2	-	67.3	-	63.7
Murang'a	67.6	59.1	68.9	67.1	68.3	63.1
Nyandarua	70.1	59.5	69.5	67.9	69.8	63.7
Nyeri	69.3	60.2	69.6	67.7	69.5	63.9
Thika	-	53.0	-	58.1	-	55.6
COAST	55.8	52.0	57.2	58.3	56.5	55.1
Kilifi	54.3	50.7	57.6	56.5	56.0	53.6
Kwale	53.4	51.7	54.1	54.2	53.8	53.0
Lamu	57.6	54.9	56.8	57.0	57.2	56.0
Malindi	-	52.2	-	56.4	-	54.3
Mombasa	57.4	52.7	59.8	53.9	58.6	53.3
Taita Taveta	60.2	54.4	59.8	61.3	60.0	57.9
Tana River	55.9	52.6	55.1	55.0	55.5	53.8
EASTERN	66.7	57.6	67.7	65.5	67.2	61.5
Embu	69.7	60.7	69.4	71.9	69.6	66.3
Isiolo	57.5	54.3	57.7	60.9	57.6	57.6
Kitui	61.6	53.0	63.3	61.1	62.6	57.1
Machakos	67.5	55.1	69.3	62.8	68.4	59.0
Makueni	-	53.9	-	60.4	-	57.2
Marsabit	60.3	57.4	60.8	64.0	60.6	60.7
Mbeere	-	59.2	-	66.8	-	63.0
Meru Central	69.2	61.8	69.1	67.6	69.2	64.7
Meru North	-	58.4	-	63.3	-	60.8
Moyale	-	55.7	-	56.9	-	56.3
Mwingi	-	55.7	-	65.7	-	60.7
Nithi (Meru S.)	-	61.7	-	67.5	-	64.6
Tharaka	-	48.9	-	56.2	-	52.6

Table 4.3 Expectation of Life at Birth by Sex and District, 1979-89 and 1989-99 (continued)

PROVINCE/ District	Life Expectancy at Birth					
	Males		Females		Birth	
	1979-89	1989-99	1979-89	1989-99	1979-89	1989-99
N/EASTERN	55.3	62.2	54.1	61.5	54.7	61.9
Garissa	56.1	60.0	53.8	58.7	55.0	59.4
Mandera	56.6	61.4	54.0	60.5	55.3	61.0
Wajir	54.9	61.3	51.9	62.3	53.4	61.8
NYANZA	49.5	41.7	53.5	48.0	51.5	44.8
Bondo	-	38.3	-	43.9	-	41.1
Gucha (Kisii S.)	-	52.4	-	61.3	-	56.8
Homa Bay	-	35.9	-	40.7	-	38.3
Kisii Central	56.5	50.5	60.8	60.0	58.7	55.2
Kisumu	47.2	37.8	50.7	43.2	49.0	40.5
Kuria	-	49.8	-	55.4	-	52.6
Migori	-	37.8	-	42.8	-	40.3
Nyamira (Kisii N.)	-	59.2	-	67.2	-	63.2
Nyando	-	37.7	-	42.9	-	40.3
Rachuonyo	-	39.4	-	44.4	-	41.9
Siaya	46.3	36.9	50.1	43.0	48.2	40.0
Suba	-	36.5	-	42.0	-	39.3
RIFT VALLEY	60.9	59.1	62.8	66.4	61.9	62.7
Baringo	58.8	58.3	59.1	64.9	59.0	61.6
Bomet	-	62.2	-	70.1	-	66.1
Buret	-	57.8	-	63.3	-	60.6
Kajiado	61.9	60.3	61.9	67.1	63.3	63.7
Keiyo	-	62.8	-	69.6	-	66.2
Kericho	63.9	54.8	67.2	62.5	65.6	58.6
Koibatek	-	63.0	-	69.0	-	66.0
Laikipia	67.5	61.6	68.6	68.1	68.1	64.9
Marakwet	61.6	63.2	61.4	68.0	61.5	65.6
Nakuru	65.6	52.9	67.9	58.2	66.8	55.6
Nandi	63.1	56.6	66.2	63.7	64.7	60.2
Narok	61.0	59.5	65.0	67.6	63.0	63.5
Samburu	56.9	58.0	60.9	63.4	58.9	60.7
Trans Mara	-	59.7	-	58.2	-	58.9
Trans Nzoia	61	57.1	62.5	63.3	61.8	60.2
Turkana	44.1	54.8	45.3	59.1	44.7	56.9
Uasin Gishu	65.1	57.6	66.6	63.6	65.9	60.6
West Pokot	49.2	55.4	50.0	61.3	49.6	58.3
WESTERN	55.6	49.8	57.7	55.8	56.7	52.8
Bungoma	58.9	54.3	60.7	61.5	59.8	57.9
Busia	52.8	41.0	52.7	46.6	52.8	43.8
Butere/Mumias	-	45.3	-	51.6	-	48.5
Kakamega	55.4	50.1	57.7	56.6	56.6	53.3
Lugari	-	57.4	-	64.0	-	60.7
Mt. Elgon	-	56.5	-	65.4	-	61.0
Teso	-	48.8	-	52.0	-	50.4
Vihiga	-	53.2	-	58.7	-	55.9

Note: Districts without values for 1979-89 were created after the 1989 census

4.6 Infant Mortality

The combined effect arising from inherent problems of under-reporting of infant deaths and the misreading of data by the scanner militated against any attempt to estimate infant mortality through direct methods. Instead, estimates of infant mortality were extracted from the constructed life tables of hypothetical cohorts. However, if the beta values (see explanation under section 4.1 above) differ greatly from 1, it would be less advisable to estimate infant mortality from life tables. As Appendix 8 shows, about 78% of the districts had male beta values between 0.9 and 1.1. Similarly, 60% of the districts had female beta values between 0.8 and 1.0.

The consistent decline experienced before the 1990s has been reversed such that infant mortality increased from 70 to about 77 per 1,000 live births between the 1979-89 and 1989-99 intercensal periods. This implies that 1 in every 13 children born in Kenya during the 1989-99 intercensal period did not celebrate their first birthday.

Table 4.4 presents infant mortality rates (IMRs) for the intercensal periods 1979-89 and 1989-99 by sex and district.

Table 4.4 Infant Mortality Rate by Sex and District, 1979-89 and 1989-99

PROVINCE/ District	Total		1989-99		PROVINCE/ District	Total		1989-99	
	1979-89	1989-99	M	F		1979-89	1989-99	M	F
KENYA	70.1	77.3	79.3	75.3	RIFT VALLEY	53.0	50.9	48.4	53.4
NAIROBI	49.0	49.7	47.3	52.0	Baringo	63.0	62.3	59.5	65.0
CENTRAL	30.0	36.9	34.7	39.1	Bomet	-	34.7	32.7	36.7
Kiambu	38.0	33.9	31.8	35.9	Keiyo	57.0	31.8	30.4	33.2
Kirinyaga	36.0	43.3	39.8	46.7	Kajiado	45.0	47.9	45.9	49.9
Murang'a	29.0	30.0	27.9	32.1	Kericho	54.0	62.1	59.7	64.4
Nyandarua	25.0	36.7	33.9	39.4	Koibatek	-	49.9	47.3	52.5
Nyeri	21.0	27.2	24.9	29.5	Laikipia	34.0	41.5	39.6	43.3
Thika	-	41.9	40.1	43.7	Marakwet	-	39.1	38.1	40.0
Maragua	-	33.9	31.7	36.1	Nakuru	46.0	42.3	36.3	48.2
COAST	77.0	86.2	83.1	89.	Nandi	59.0	56.5	53.6	59.4
Kilifi	85.0	85.3	77.8	92.7	Narok	55.0	48.1	42.4	53.8
Kwale	89.0	91.5	87.9	95.0	Samburu	34.0	50.8	49.4	52.1
Lamu	72.0	61.8	58.6	64.9	Trans Mara	-	67.2	70.1	64.3
Mombasa	60.0	59.3	59.9	58.7	Trans Nzoia	62.0	63.0	61.7	64.3
Taita Taveta	50.0	62.7	57.0	68.3	Turkana	91.0	66.0	65.1	66.9
Tana River	83.0	91.3	87.9	94.6	Uasin Gishu	54.0	48.5	46.6	50.4
Malindi	-	74.2	69.6	78.7	West Pokot	108.0	87.2	85.7	88.7
EASTERN	47.0	44.1	40.6	47.5	Buret	-	38.9	37.8	39.9
Embu	44.0	41.1	37.2	44.9	WESTERN	101.0	100.6	97.3	103.9
Isiolo	73.0	75.1	75.2	74.9	Bungoma	92.0	97.0	93.3	100.6
Kitui	66.0	68.6	64.5	72.6	Busia	111.0	125.9	121.5	130.3
Makueni	-	50.3	47.8	52.7	Mt Elgon	-	71.4	67.0	75.7
Machakos	45.0	43.9	40.6	47.2	Kakamega	101.0	110.9	107.5	114.2
Marsabit	37.0	43.9	41.8	45.9	Lugari	-	64.1	61.5	66.6
Mbeere	-	42.0	39.4	44.6	Teso	-	84.7	84.2	85.2
Meru Central	35.0	44.2	42.1	46.2	Vihiga	-	81.9	79.3	84.4
Moyale	-	76.0	77.8	74.2	Butere/Mumias	-	132.1	126.4	137.7
Mwingi	-	84.1	78.6	89.5	<i>Note Districts without values for 1979-89 were created after the 1989 census</i>				
Meru North	-	37.3	36.3	38.2					
Tharaka	-	97.7	86.0	103.7					
Nithi (Meru S.)	-	76.4	49.9	60.0					
N/EASTERN	77.0	65.1	71.2	59.0					
Garissa	78.0	67.7	69.7	65.6					
Mandera	72.0	67.4	70.9	63.8					
Wajir	69.0	69.9	76.3	63.5					
NYANZA	111.0	111.6	106.0	117.2					
Gucha (Kisii S.)	-	90.3	81.2	99.3					
Homa Bay	137.0	149.2	144.4	154.0					
Kisii Central	62.0	70.1	64.8	75.4					
Kisumu	129.0	123.5	117.9	129.1					
Kuria	-	77.9	75.1	80.6					
Migori	-	143.4	138.7	148.1					
Nyamira (Kisii N.)	-	25.6	23.5	27.7					
Rachuonyo	-	110.6	106.2	115.0					
Siaya	135.0	135.6	128.7	142.5					
Suba	-	146.9	141.0	152.7					
Bondo	-	114.6	108.6	120.5					
Nyando	-	116.1	110.9	121.3					

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The analysis by province shows that infant mortality rate during the 1989-99 intercensal period was highest in Nyanza where 1 in every 9 children died before the first birthday (112 per 1,000) and lowest in Central where 1 in every 27 children died before the first birthday. All the provinces, except Eastern, North Eastern and Rift Valley, observed increased infant mortality during the 1989-99 period as compared to the 1979-89 period as shown in Table 4.4.

As in earlier census results, district variation in infant mortality was very pronounced, with the lowest rates found in districts in Central province and the highest in districts in Nyanza and Western provinces. The highest IMR of 1 death in every 7 children born alive (149 per 1,000) was recorded in Homa Bay district while the lowest of 1 death in every 37 children born alive (27 per 1,000) was in Nyeri district.

4.7 Age-Specific Mortality Rates

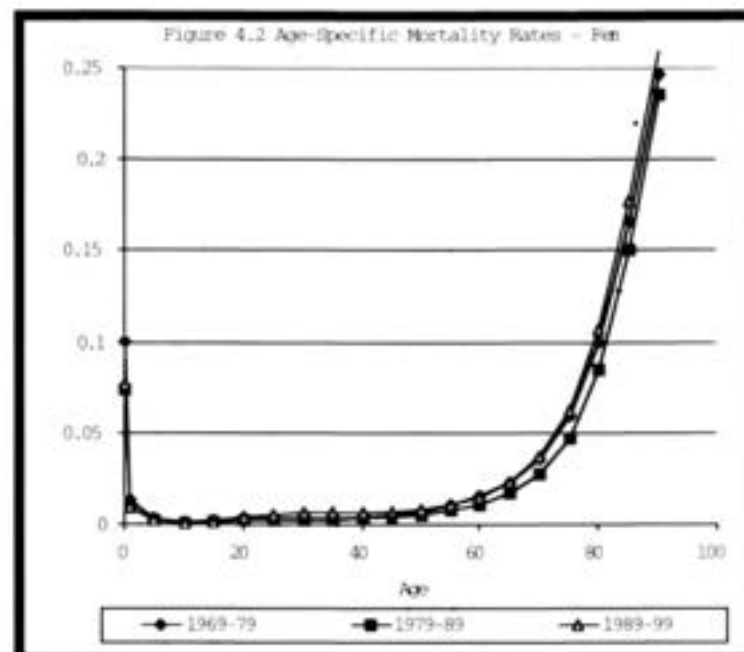
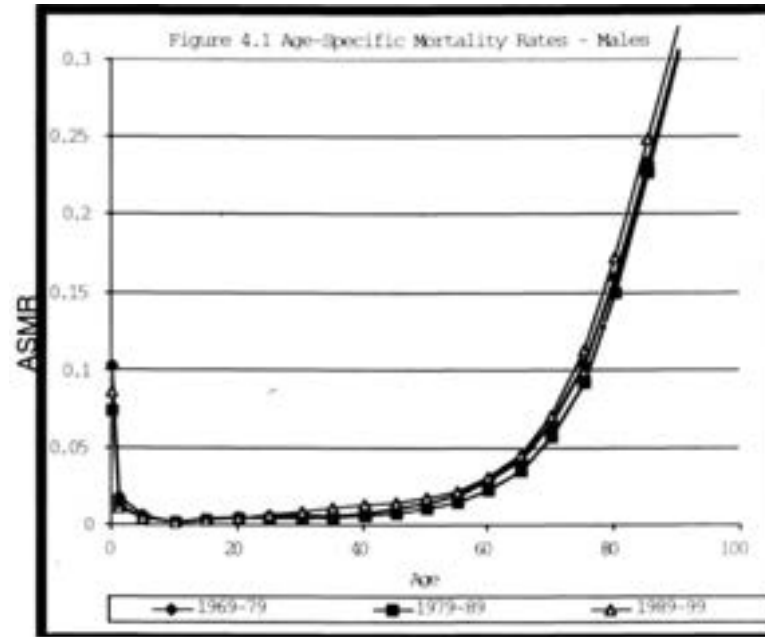
The principal way of measuring the variation in mortality by age is in terms of age-specific mortality rates (ASMRs). ASMR is conventionally defined as the number of deaths of persons in a given age during a year per 1,000 of the mid-year population at that age. This measure is very important in that it singles out the ages that are vulnerable to death relative to others. ASMRs for Kenya since the 1969 census are presented in Table 4.5 and Figures 4.1 and 4.2.

Table 4.5 Age-Specific Mortality Rates by Sex, 1969-79, 1979-89 and 1989-99

Age Group	Males			Females		
	1969-79	1979-89	1989-99	1969-79	1979-89	1989-99
Under 1	102.1	74.3	86.9	88.0	66.4	76.8
1-4	19.0	13.9	11.1	16.6	11.9	10.5
5-9	6.2	4.6	4.5	5.3	3.8	3.7
10-14	2.5	1.8	1.8	2.1	1.5	1.4
15-19	4.2	3.1	3.1	3.5	2.5	2.6
20-24	5.7	4.3	4.3	4.8	3.4	5.1
25-29	5.9	4.5	5.9	5.0	3.5	7.0
30-34	6.2	4.7	8.5	5.2	3.7	7.9
35-39	7.1	5.4	10.3	5.9	4.2	8.3
40-44	8.5	6.5	11.6	7.0	5.1	8.6
45-49	10.8	8.4	13.2	8.9	6.5	9.3
50-54	14.4	11.3	15.6	11.9	8.7	10.8
55-59	20.2	16.0	19.8	16.7	12.3	13.8
60-64	29.3	23.8	27.4	24.3	18.2	19.5
65-69	44.0	36.7	40.8	36.9	28.2	29.6
70-74	67.8	58.6	63.8	57.7	45.7	47.3
75-79	105.9	95.7	102.3	92.4	76.8	78.6
80+	191.5	185.0	160.6	178.9	166.3	130.2

The distribution of deaths by age from the census data shows a bimodal pattern, "U-shape" as illustrated in Figures 4.1 and 4.2. All curves for the three intercensal periods show the ASMR was at peak at age under 1 year. Then there is a trough at about ages 5 to 14 and a second peak at age 70+ years.

It is evident from the graphs that mortality has increased for both males and females during the 1989-99 period as compared to the 1979-89 intercensal period. However, in most ages, especially between 25 and 50 years, ASMRs observed during the 1989-99 intercensal period are higher than those during 1979-89 and 1969-79. This implies that mortality between these ages has increased to levels higher than those observed in the 1960s.



4.8 Crude Death Rates

The ASMRs generated by the constructed life tables were multiplied by the corresponding mid-period population for the intercensal period 1989-99 for each sex so as to obtain the number of deaths which were used to compute crude death rates. For the new districts (i.e. those created after 1989), the 1999 population by age group and sex were multiplied by the corresponding ASMRs in order to compute the crude death rates. For this reason, the crude death rates for these districts pertain more to the year 1999 rather than the intercensal period 1989-99. The overall crude death rate was yet another indicator confirming the upturn in mortality which increased from about 11 deaths per 1,000 population during the intercensal period 1979-89 to 12 for the 1989-99 period.

Kenya 1999 Population and Housing Census

The results for all the districts are presented in Table 4.6. Homa Bay district had the highest crude death rate (25.1) while Wajir had the lowest (6.7). In total, 31 districts had a higher crude death rate than the national figure with all the districts in Coast and Nyanza (except Gucha. Kisii Central and Nyamira) provinces falling in this category. On the other hand, all the districts in Rift Valley and Central (except Kiambu and Thika) provinces recorded crude death rates lower than the national figure. Comparing the values for 1979-89 and 1989-99 intercensal periods, the data show that most of the districts recorded increases in crude death rates except those in North Eastern province and Baringo, Marakwet, Samburu, Turkana and West Pokot in Rift Valley province.

Table 4.6 Crude Death Rates by Sex and District, 1979-89 and 1989-99

PROVINCE/ District	1989--99		Both		PROVINCE/ District	1989--99		Both	
	M	F	1979-89	1989-99		M	F	1979-89	1989-99
KENYA	13.3	10.0	10.6	11.7	NYANZA	21.4	16.8	15.1	19.0
NAIROBI	10.3	8.1	5.4	9.3	Gucha (Kisii S.)	12.9	9.8	-	11.3
CENTRAL	9.9	7.5	7	8.7	Homa Bay	27.9	22.6	-	25.1
Kiambu	13.2	11.2	6.6	12.2	Kisii Central	13.5	9.7	10	11.5
Kirinyaga	11.1	8.0	7.2	9.6	Kisumu	23.7	19.5	16.9	21.6
Murang'a	12.1	8.7	7.1	10.3	Kuria	14.7	12.6	-	13.6
Nyandarua	9.7	6.6	5.6	8.1	Migori	25.1	20.8	-	22.9
Nyeri	11.1	8.3	6.9	9.7	Nyamira (Kisii N.)	8.8	6.1	-	7.4
Thika	13.1	11.3	-	12.2	Rachuonyo	24.1	19.5	-	21.7
Maragua	10.9	10.5	-	10.7	Siaya	27.6	21.7	17.9	24.4
COAST	13.6	10.7	11.2	12.1	Suba	26.4	21.5	-	23.9
Kilifi	14.6	11.1	12.6	12.7	Bondo	25.7	21.2	-	23.4
Kwale	14.8	12.6	13.1	13.7	Nyando	24.7	20.2	-	22.4
Lamu	13.3	11.9	11.4	12.6	RIFT VALLEY	9.7	7.4	9	8.6
Mombasa	12.6	11.8	8.6	12.3	Baringo	10.0	8.1	10.6	9.0
Taita Taveta	13.9	10.1	9.5	12.0	Bomet	8.3	6.1	-	7.1
Tana River	13.6	12.1	11.7	12.9	Keiyo	8.8	6.7	-	7.7
Malindi	14.5	12.0	-	13.2	Kajiado	8.9	7.0	8	8.0
EASTERN	11.5	8.3	7.3	9.8	Kericho	11.4	9.1	7.4	10.3
Embu	11.1	6.6	6.4	8.8	Koibatek	11.0	8.6	-	9.6
Isiolo	13.1	10.2	11.7	11.7	Laikipia	9.0	6.7	6.4	7.9
Kitui	16.2	11.7	10.2	13.9	Marakwet	9.2	7.2	10.1	8.2
Makueni	15.5	12.0	-	13.9	Nakuru	12.7	9.7	6.7	11.2
Machakos	15.1	11.3	7	13.1	Nandi	12.1	9.2	8.8	10.6
Marsabit	13.7	9.8	11	11.8	Narok	10.0	7.6	8.8	8.3
Mbeere	12.4	9.2	-	10.7	Samburu	10.4	8.3	10.5	9.3
Meru Central	10.7	8.3	6.3	9.5	Trans Mara	9.6	10.6	-	10.1
Moyale	12.4	12.3	-	12.3	Trans Nzoia	10.2	8.5	8.9	9.3
Mwingi	13.9	9.1	-	11.3	Turkana	8.9	7.4	16.5	8.1
Meru North	12.0	9.3	-	10.7	Uasin Gishu	8.3	6.9	7.0	7.6
Tharaka	16.7	12.6	-	14.6	West Pokot	12.3	10.5	15.9	11.4
Nithi (Meru S.)	11.8	8.4	-	9.6	Buret	9.4	7.9	-	6.8
N/EASTERN	7.5	7.8	10.8	7.7	WESTERN	16.2	13.0	12.7	14.5
Garissa	7.5	7.9	10.3	7.7	Bungoma	13.7	11.1	11.3	12.3
Mandera	7.1	7.5	11.1	7.3	Busia	22.9	18.6	14.9	20.6
Wajir	6.8	6.5	11.7	6.7	Mt. Elgon	19.7	15.8	-	17.7
					Kakamega	15.8	12.9	12.8	14.3
					Lugari	10.7	8.4	-	9.5
					Teso	11.4	9.1	-	10.3
					Vihiga	16.4	14.2	-	15.3
					Butere/Mumias	14.6	11.5	-	13.0

Note: Districts without values for 1979-89 were created after the 1989 census.

Chapter 5

Summary and Recommendations

5.1 Introduction

Within the framework of the Plan of Action after the International Conference on Population and Development in 1994, Kenya reviewed its population policy in line with national needs. The current National Population Policy for Sustainable Development (NPPSD) focuses on improving the well being and quality of life of the people of Kenya. Two of the eight goals of this policy are "improvement of the health and welfare of the people through the provision of information and education on how to prevent premature deaths and illness among high risk groups, especially mothers and children" and "sustenance of the on-going demographic transition to further reduce fertility and mortality, especially infant and child mortality".

Concerning mortality, the policy has set a number of targets: reduction of infant mortality rate to 67 by 2005, reduction of under-5 mortality rate to 104 by 2005, reduction of maternal mortality rate to 230 by 2005, reduced crude death rate of 10 by 2005 and minimised decline in expectation of life for both sexes to 53 by 2010.

Over the last decade or so, a number of socio-economic factors have slowed down the decline in mortality. The poor economic performance, increased levels of poverty at household level and the rising HIV/AIDS prevalence, among others, have all contributed to reduce the rate at which mortality, especially child mortality, has been falling.

5.2 Major Findings

One general finding concerns the upturn of mortality since the mid-1990s.

5.2.1 *Quality of Data*

The errors introduced during the scanning process seriously affected the quality of data, particularly on children ever born and children dead. As a result, the 1999 census data erroneously reflect higher child mortality for females than for males. In spite of a drop in the level of non-response on CEB, the younger females still account for more than half of the non-response. However, data on orphanhood were considered of very high quality.

5.2.2 *Child Mortality*

It is evident that there was an increase in child mortality during the 1989-99 intercensal period. Most of the districts recorded a reverse from the declining trend experienced from the previous censuses.

Overall, the number of children dying in the first five years of life rose by nearly 3% to stand at 116 per 1,000 live births during the 1989-99 intercensal period. This increase was experienced in all districts except Clarissa, Trans Nzoia, Turkana and West Pokot. Regional variations in childhood

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mortality still exist; Homa Bay district had more than 200 children dying before their fifth birthday as compared to 52 in Nyeri district.

In line with results from other sources, the influence of mother's level of education on child mortality was evident. Increasing levels of education of mothers were associated with decreasing levels in under-5 mortality. Except for a few isolated cases, a similar pattern (where the level of education is inversely proportional to the level of under-5 mortality) prevailed at district level.

Child mortality continued to drop in both urban and rural areas although it remained higher in rural than in urban areas. However, urban areas in most districts were prone to higher child mortality than rural areas. Results from all areas of analysis of child mortality point to the fact that the declining trend experienced during previous censuses has halted. Instead, child mortality has started increasing in all parts of the country; Nyanza, Coast and Western provinces still retain pockets of high child mortality.

5.2.3 Adult Mortality

Both indicators of adult mortality (proportions of persons with parent alive and probabilities of surviving from a given age to another) reflect a rise during the 1989-99 intercensal period. A similar pattern is depicted at district level.

5.2.4 Expectation of Life

As a summary of the mortality conditions, the expectation of life at birth signifies the general standard of living of the total population. While gains in the expectation of life at birth were recorded during the previous censuses, there was a decline in this indicator for both sexes during the 1989-99 intercensal period. Pockets of low expectation of life at birth were prominent in Coast, Nyanza and Western provinces. In almost all districts, the expectation of life at birth for females remained higher than for males.

5.2.5 Infant Mortality

The IMR increased from 70 to 77 per 1,000 live births between the 1979-89 and 1989-99 intercensal periods. While similar increases were replicated at district level, regional variations persisted—the highest IMR of 147 in Suba district as compared to the lowest of 26 in Nyeri district. Differentials of IMR by sex did not yield meaningful results due to errors introduced at the time of scanning census data.

5.2.6 Age-Specific Mortality

The distribution of deaths by age produced perfect "U-shaped" curves for both sexes. By contributing to nearly one quarter of total deaths, the relative importance of infant deaths was evident.

5.3 Implications

In spite of the regional disparities that have existed over time, the upturn in mortality in all areas of analysis has serious policy implications vis-a-vis the goals and targets set out by the current population policy. Any attempt to address the current mortality situation must identify the major causes of death, especially for children. Although census data do not give details of cause of death, the health information system and the vital registration system are sources for such information.

While the proportion of deaths due to HIV/AIDS could not be ascertained from the census data, the pandemic is thought to have played a significant role in the upturn in mortality given the ever-rising HIV prevalence rate and subsequent number of deaths. That HIV/AIDS had to be declared a national disaster by His Excellency the President in 1999 provides testimony about the

seriousness of the pandemic. With the formation of the National AIDS Control Council in 2001, it is expected that, with time, all aspects of the HIV/AIDS menace will be addressed comprehensively.

Alongside the direct causes of death, there are a number of factors which influence the level of child mortality. Among such factors include the level of education of mothers, access to quality health care and access to hygienic amenities. It has long been established that providing education to females contributes to the reduction of child mortality. The declining school enrolment rates in the recent past are in sharp contrast with the current policy's objective of increasing educational attainment levels. Access to quality health care means access to health facilities, availability of quality care and affordability of health care. Due to the poor economic environment in Kenya for the past 10 years or so, the government has spent less on basic services; hence, there has been less improvement in public health. This has resulted in the current policy of cost-sharing in health and education which has worsened the situation further since more and more people are unable to afford services due to increasing levels of poverty. Access to safe drinking water and a hygienic-sanitary environment are other factors that have policy implications on child mortality.

5.4 Recommendations

In order to improve the situation and to achieve the mortality goals set out in the current population policy, it is recommended that the government:

- Intensify the training of those involved in census taking so as to reduce the level of non-response on children ever born to less than 3%;
- Critically assess the quality of outputs before employing a new technology (for example, scanning) in a massive exercise such as the census;
- Through the National AIDS Control Council, spearhead an all-out war against the HIV/AIDS pandemic in order to reduce the prevalence rate;
- Implement favourable policies that will reduce the level of poverty which, in turn, will increase the proportion of the population with access to health and education;
- Identify causal factors of high mortality in specific regions with a view to reducing regional disparities.

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Republic of Kenya

Population and Housing Census - 24/25 August 1999

(CONFIDENTIAL)

Structure No.: S

Province District Division Location Sub-Location E.A. Number Household No. Household Type
 Household Totals: Males Females Total:

A: Information Regarding All Persons

Serial Number of Form: 3342941

[illegible]

B: Information Regarding Persons aged 5 years and above
C: Information Regarding Females aged 12 years and above

Serial No.	Education			Labour force Particulars (P-30)	Particulars of all Live Births								Particulars of Last Live Birth			
	(P-22)	(P-23)	(P-24)		(P-40)	(P-41)	(P-42)	(P-43)	(P-44)	(P-45)	(P-46)	(P-47)	(P-48)	(P-49)	(P-50)	(P-51)
	What is the school attendance status of: 1. At school 2. Left school 3. Never went to school 4. No / DK 5. Under 5 years	What is the highest level reached by: /Write the appropriate code using the categories shown inside the box above (code 97 if P-22 is 5)	What is the highest level completed by: /Write the appropriate code using the categories shown inside the box above (code 97 if P-22 is 5)	What was usually doing during the last 7 days preceding the census night? (1) Worked for pay (2) On leave / sick leave (3) Worked on own / family business (4) Worked on own / family Agricultural holding (5) Seeking work (6) No work available (7) Full time student (8) Retired (9) Incapacitated (0) Homemaker (1) Other	How many children have you borne alive? Mark X in the box and fill single digit only for 10 and above Boys Girls	How many children have you borne alive who usually live in the household? Mark X in the box and fill single digit only for 10 and above Boys Girls	How many children have you borne alive who usually live elsewhere? Mark X in the box and fill single digit only for 10 and above Boys Girls	How many children have you borne alive who have died? Mark X in the box and fill single digit only for 10 and above Boys Girls	When was your last child born? Month Year	Was it a male or female? 1. Male 2. Female 3. Male twins 4. Female twins 5. Male - female twins 6. Multiple births 7. Don't know	Is this child still alive? 1. Yes 2. No 3. Both twins 4. One of the twins 5. All the multiples 6. Two of the multiples 7. One of the multiples 8. None of the multiples 9. Don't know					
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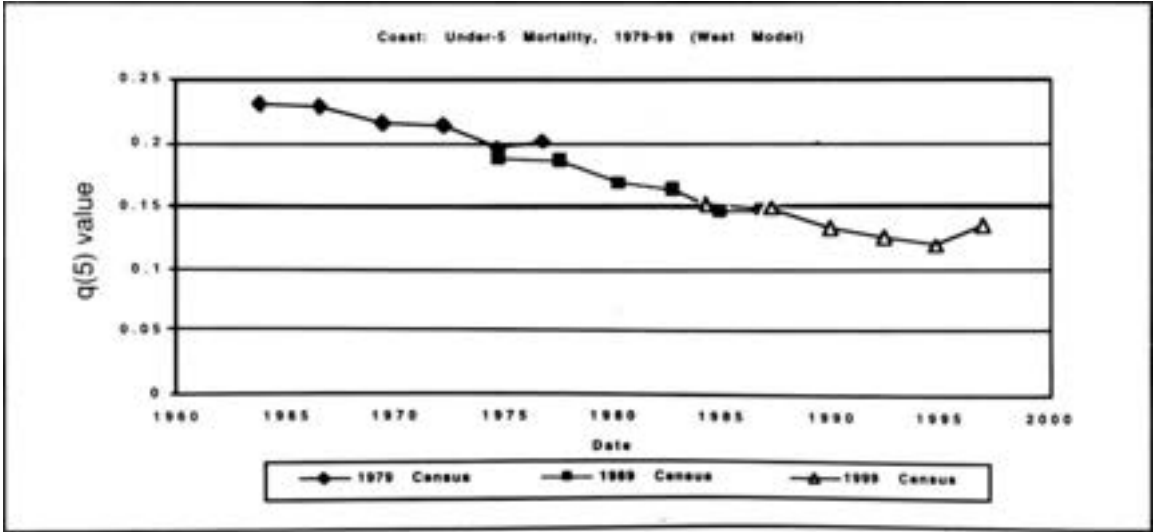
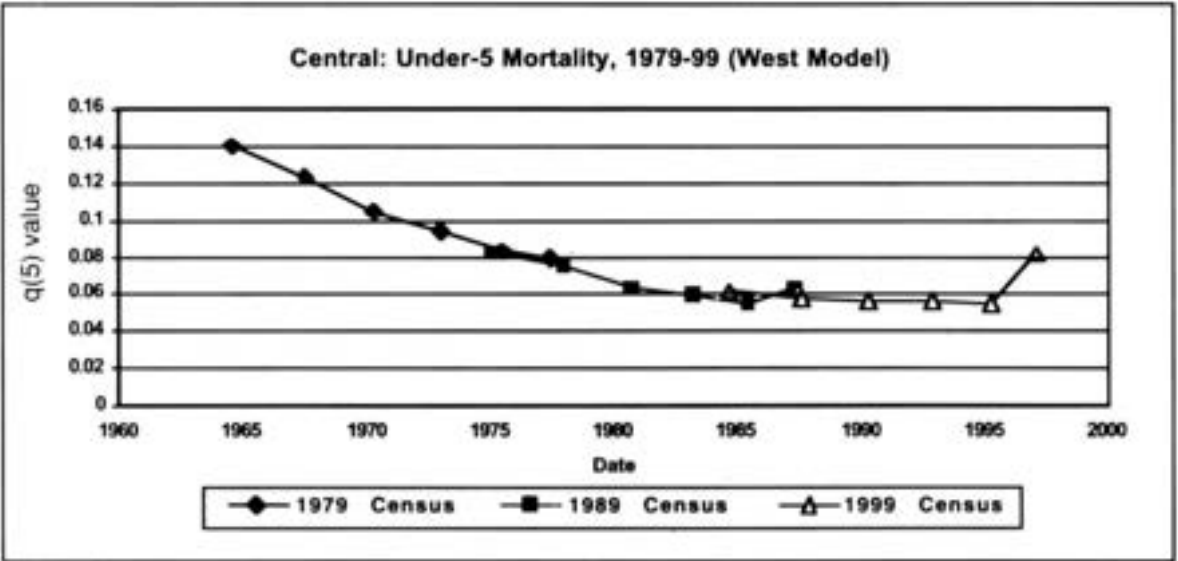
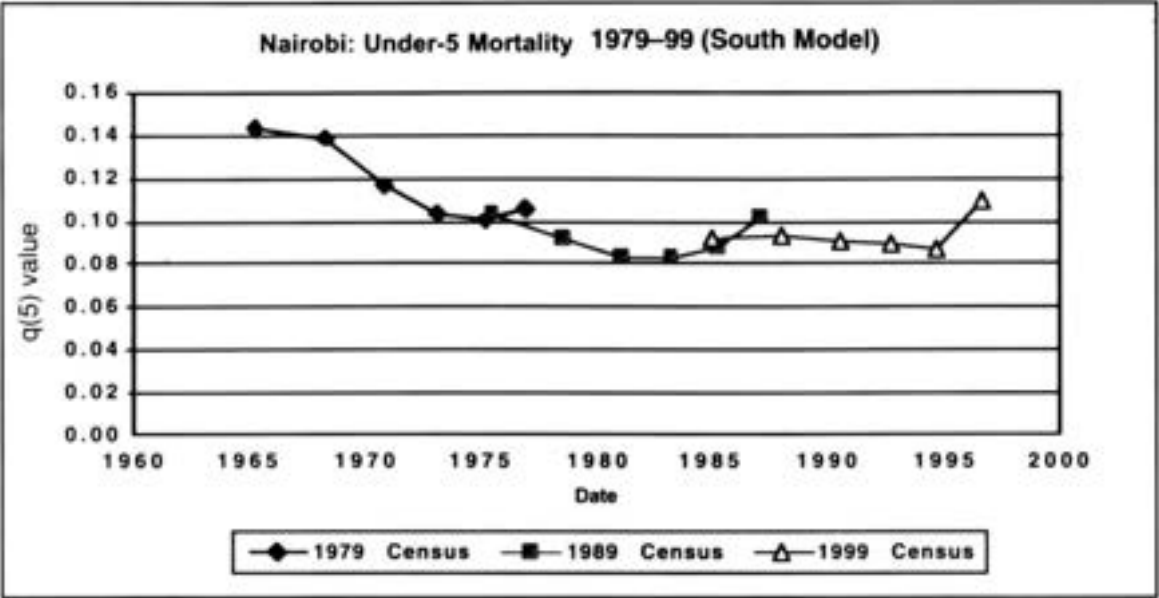
D: Housing Conditions and Amenities - To Be Asked Of The Household Head Or Any Other Responsible Persons

Dwelling Units		Main Dwelling Units Tenure Status (H-12)	Dominant Construction Materials of Main Dwelling Units			Main Source of Water (H-16)	Main Type of Human Waste Disposal (H-17)	Main Cooking Fuel (H-18)	Main Type of Lighting (H-19)
(H-10)	(H-11)		(H-13)	(H-14)	(H-15)				
How many dwelling units does this household occupy?	How many habitable rooms does this (these) dwelling unit(s) contain?	If owner occupied state whether: 1. purchased 2. Constructed 3. Inherited	If owner occupied state whether: 4. Government 5. Local Authority 6. Private 7. Private Company 8. Individual 9. Other form of tenure	ROOF: 1 - corrugated iron sheet 2 - tiles 3 - concrete 4 - asbestos sheet 5 - grass 6 - mat 7 - tin 8 - other	WALL: 1 - stone 2 - brick / block 3 - mud / woad 4 - mud / cement 5 - wood only 6 - corrugated iron sheet 7 - grass / reeds 8 - tin 9 - other	FLOOR: 1 - cement 2 - tiles 3 - wood 4 - mat 5 - other	1 - pond 2 - dam 3 - lake 4 - stream / river 5 - spring 6 - well 7 - borehole 8 - piped 9 - other	1 - manure 2 - septic tank 3 - cess pond 4 - pit latrine 5 - bucket latrine 6 - flush 7 - other	1 - electricity 2 - paraffin 3 - gas 4 - kerosene 5 - charcoal 6 - solar 7 - other

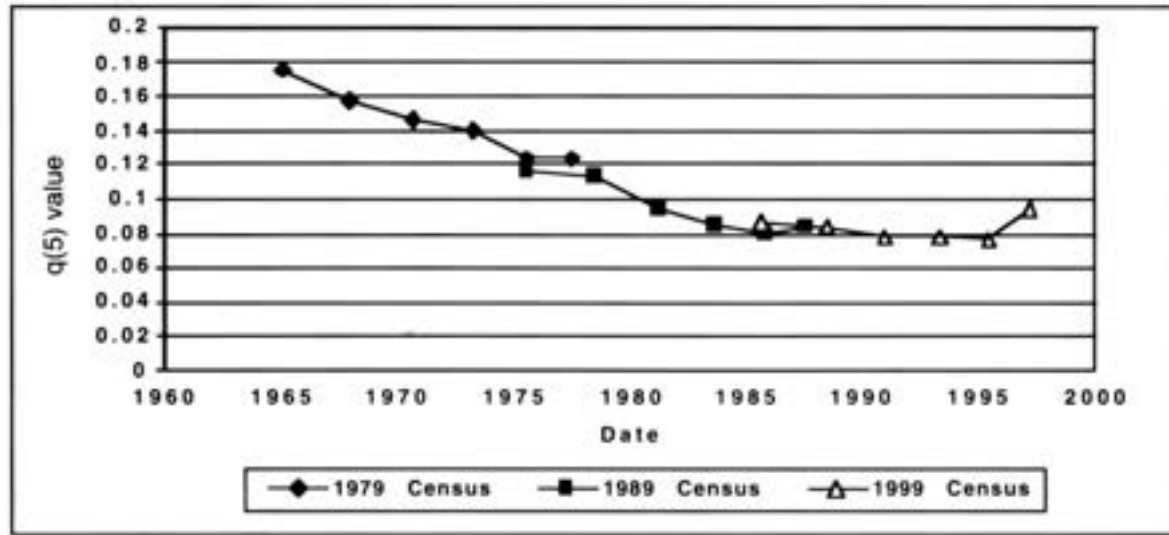
 Structure No. of continuation form:

Kenya 1999 Population and Housing Census

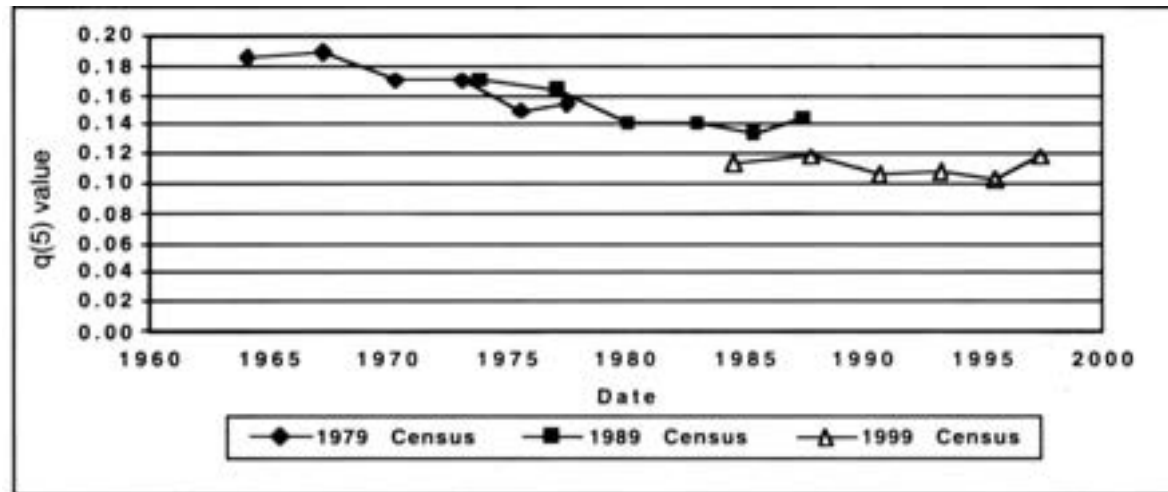
Appendix 2 Under-5 Mortality by Province, 1979-99



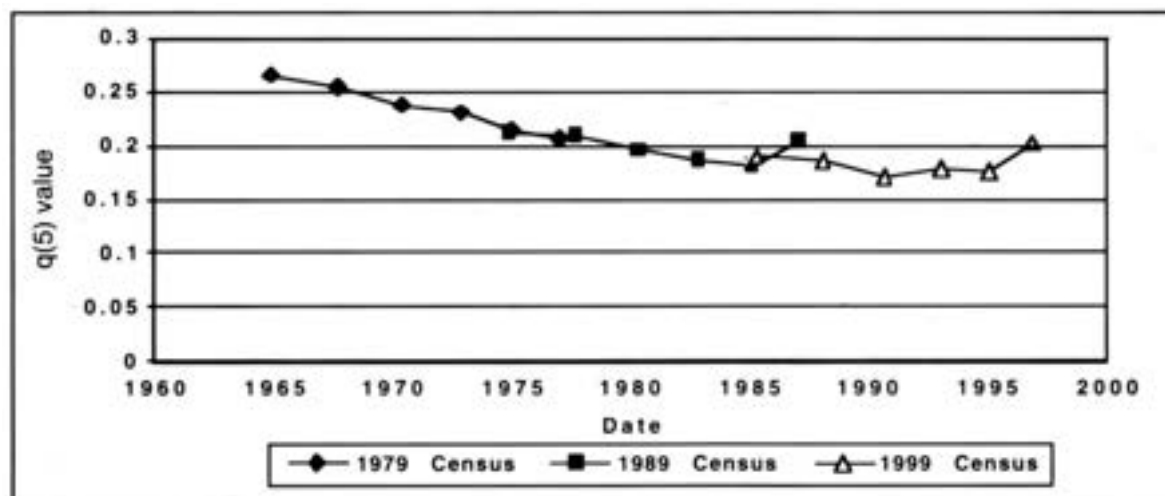
Eastern: Under-5 Mortality, 1979-99 (North Model)



North Eastern: Under-5 Mortality, 1979-99 (South Model)

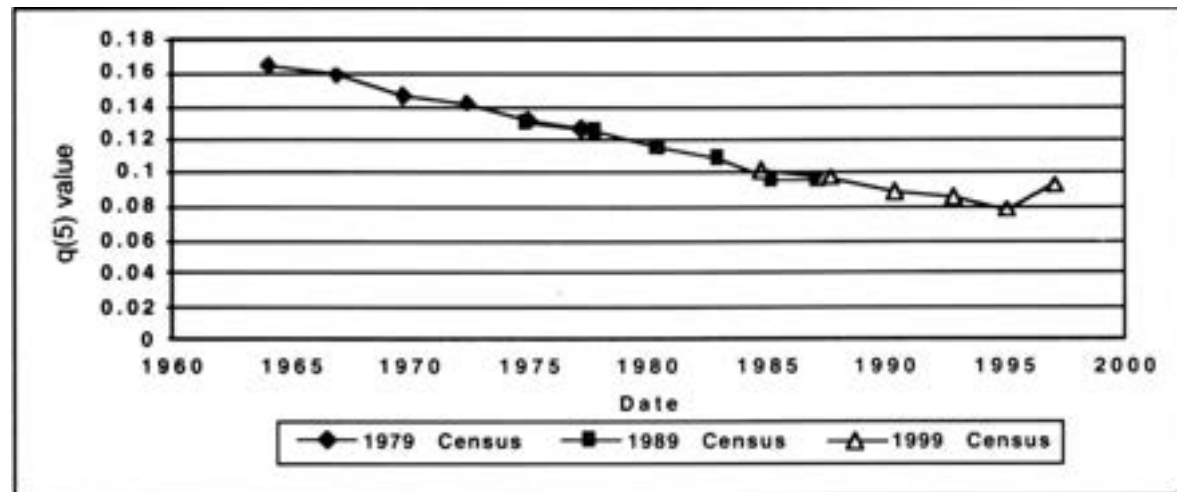


Nyanza: Under-5 Mortality, 1979-99 (North Model)

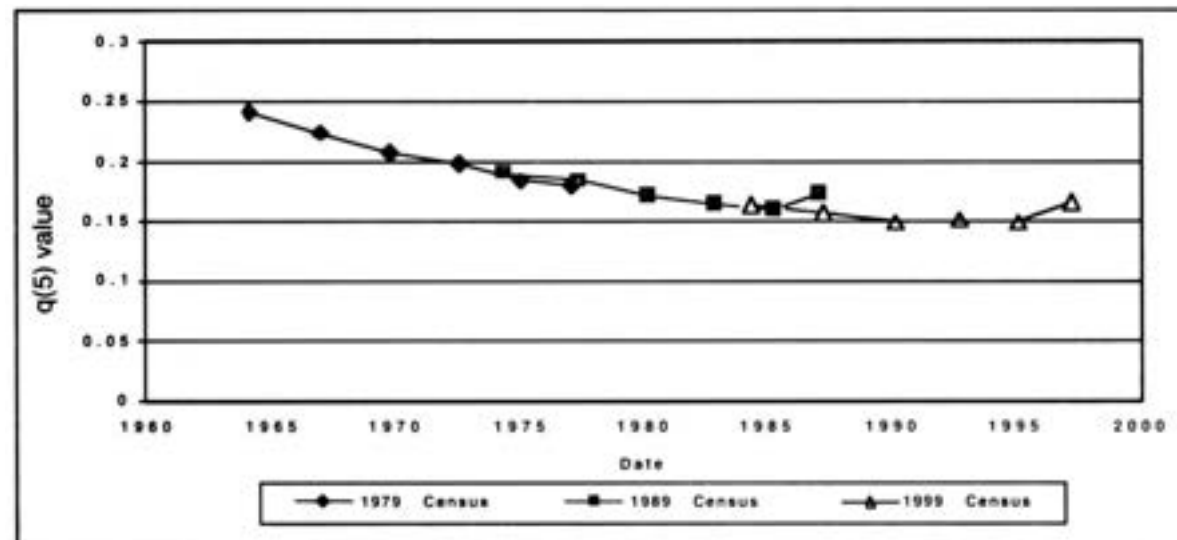


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Rift Valley: Under-5 Mortality, 1979-99 (West Model)



Western: Under-5 Mortality, 1979-99 (West Model)



Appendix 3 Under-5 Mortality Based on Most Recent Births by Sex

PROVINCE/ District	Under-5 Mortality Estimate			PROVINCE/ District	Under-5 Mortality Estimate		
	Male	Female	Total		Male	Female	Total
KENYA	0.144	0.138	0.141	RIFT VALLEY	0.098	0.094	0.096
NAIROBI	0.123	0.120	0.121	Baringo	0.115	0.111	0.113
CENTRAL	0.075	0.075	0.075	Bomet	0.097	0.091	0.094
Kiambu	0.081	0.078	0.080	Keiyo	0.102	0.082	0.092
Kirinyaga	0.071	0.065	0.068	Kajiado	0.106	0.108	0.107
Murang'a	0.066	0.071	0.068	Kericho	0.095	0.095	0.095
Nyandarua	0.071	0.077	0.074	Koibatek	0.079	0.073	0.076
Nyeri	0.057	0.065	0.061	Laikipia	0.086	0.077	0.082
Thika	0.089	0.085	0.087	Marakwet	0.068	0.074	0.071
Maragua	0.079	0.087	0.083	Nakuru	0.098	0.094	0.096
COAST	0.121	0.119	0.120	Nandi	0.109	0.110	0.110
Kilifi	0.128	0.127	0.128	Narok	0.087	0.087	0.087
Kwale	0.123	0.121	0.122	Samburu	0.076	0.072	0.074
Lamu	0.115	0.107	0.111	Trans Mara	0.122	0.110	0.116
Mombasa	0.121	0.123	0.122	Trans Nzoia	0.091	0.080	0.085
Taita Taveta	0.091	0.080	0.085	Turkana	0.105	0.108	0.106
Tana River	0.111	0.104	0.107	Uasin Gishu	0.092	0.089	0.090
Malindi	0.134	0.130	0.132	West Pokot	0.085	0.083	0.084
EASTERN	0.121	0.109	0.115	Buret	0.133	0.128	0.131
Embu	0.102	0.093	0.098	WESTERN	0.135	0.127	0.131
Isiolo	0.126	0.125	0.126	Bungoma	0.109	0.096	0.103
Kitui	0.123	0.113	0.118	Busia	0.171	0.165	0.168
Makueni	0.132	0.108	0.121	Mt. Elgon	0.104	0.100	0.102
Machakos	0.163	0.146	0.153	Kakamega	0.142	0.126	0.134
Marsabit	0.080	0.089	0.084	Lugari	0.117	0.114	0.116
Mbeere	0.156	0.130	0.148	Teso	0.124	0.118	0.121
Meru Central	0.068	0.062	0.065	Vihiga	0.136	0.138	0.137
Moyale	0.148	0.151	0.150	Butere/Mumias	0.166	0.158	0.162
Mwingi	0.153	0.140	0.147				
Meru North	0.075	0.069	0.072				
Tharaka	0.105	0.124	0.114				
Nithi (Meru S.)	0.093	0.105	0.099				
NORTH EASTERN	0.150	0.164	0.157				
Garissa	0.151	0.170	0.160				
Mandera	0.148	0.158	0.153				
Wajir	0.150	0.162	0.157				
NYANZA	0.248	0.240	0.244				
Gucha (Kisii S.)	0.137	0.129	0.133				
Homa Bay	0.283	0.285	0.284				
Kisii Central	0.119	0.115	0.117				
Kisumu	0.245	0.239	0.242				
Kuria	0.153	0.154	0.154				
Migori	0.320	0.309	0.315				
Nyamira (Kisii N.)	0.226	0.210	0.218				
Rachuonyo	0.284	0.272	0.278				
Siaya	0.258	0.237	0.248				
Suba	0.265	0.280	0.272				
Bondo	0.332	0.319	0.326				
Nyando	0.238	0.234	0.236				

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Appendix 4 Proportions of Children Dead by Sex and District, 1999

PROVINCE/ District	Proportions of Children Dead						
	15-19	20-24	25-29	30-34	35-39	40-44	
KENYA							
Male	0.117	0.106	0.099	0.106	0.115	0.137	0.155
Female	0.117	0.110	0.100	0.115	0.122	0.141	0.157
Total	0.117	0.108	0.099	0.110	0.118	0.139	0.156
NAIROBI							
Male	0.120	0.101	0.081	0.079	0.083	0.090	0.099
Female	0.108	0.103	0.083	0.094	0.098	0.108	0.108
Total	0.114	0.102	0.082	0.087	0.091	0.099	0.104
CENTRAL							
Male	0.099	0.062	0.047	0.045	0.049	0.058	0.072
Female	0.109	0.074	0.056	0.069	0.072	0.076	0.086
Total	0.104	0.068	0.051	0.057	0.060	0.067	0.079
Kiambu							
Male	0.107	0.065	0.048	0.047	0.048	0.053	0.067
Female	0.118	0.078	0.060	0.075	0.077	0.078	0.088
Total	0.113	0.071	0.054	0.061	0.063	0.065	0.078
Murang'a							
Male	0.082	0.057	0.042	0.040	0.042	0.055	0.068
Female	0.101	0.064	0.051	0.064	0.061	0.068	0.086
Total	0.093	0.060	0.046	0.052	0.052	0.061	0.077
Maragua							
Male	0.073	0.060	0.049	0.046	0.051	0.062	0.078
Female	0.103	0.068	0.053	0.061	0.064	0.078	0.087
Total	0.089	0.064	0.051	0.054	0.057	0.062	0.082
Nyandarua							
Male	0.118	0.062	0.045	0.040	0.050	0.057	0.076
Female	0.087	0.063	0.054	0.068	0.070	0.076	0.089
Total	0.101	0.062	0.049	0.054	0.060	0.067	0.079
Kirinyaga							
Male	0.084	0.066	0.052	0.049	0.057	0.071	0.088
Female	0.113	0.087	0.064	0.082	0.086	0.088	0.103
Total	0.100	0.076	0.058	0.066	0.071	0.079	0.095
Nyeri							
Male	0.083	0.053	0.039	0.046	0.044	0.049	0.061
Female	0.061	0.041	0.033	0.031	0.032	0.039	0.050
Total	0.102	0.064	0.044	0.060	0.057	0.058	0.066
Thika							
Male	0.128	0.075	0.056	0.057	0.063	0.071	0.082
Female	0.121	0.082	0.063	0.071	0.083	0.086	0.090
Total	0.125	0.079	0.059	0.064	0.073	0.079	0.086
COAST							
Male	0.123	0.116	0.114	0.123	0.140	0.169	0.189
Female	0.117	0.119	0.113	0.131	0.146	0.174	0.192
Total	0.120	0.117	0.114	0.127	0.143	0.172	0.191
Kilifi							
Male	0.144	0.127	0.124	0.136	0.161	0.197	0.217
Female	0.136	0.128	0.124	0.140	0.161	0.197	0.220
Total	0.139	0.128	0.124	0.138	0.161	0.197	0.218
Kwale							
Male	0.142	0.138	0.141	0.147	0.168	0.188	0.216
Female	0.136	0.142	0.138	0.158	0.180	0.200	0.223
Total	0.139	0.140	0.139	0.153	0.174	0.194	0.219
Lamu							
Male	0.128	0.106	0.118	0.119	0.124	0.149	0.180
Female	0.127	0.109	0.113	0.113	0.138	0.140	0.173
Total	0.127	0.108	0.116	0.116	0.131	0.144	0.177
Mombasa							
Male	0.097	0.098	0.087	0.090	0.100	0.114	0.134
Female	0.080	0.091	0.087	0.099	0.102	0.117	0.134
Total	0.089	0.095	0.087	0.094	0.101	0.116	0.134
Taita Taveta							
Male	0.112	0.086	0.086	0.087	0.099	0.111	0.139
Female	0.113	0.112	0.090	0.115	0.122	0.132	0.146
Total	0.113	0.099	0.088	0.101	0.110	0.121	0.142
Tana River							
Male	0.127	0.127	0.134	0.149	0.155	0.183	0.204
Female	0.117	0.130	0.131	0.146	0.155	0.186	0.189
Total	0.122	0.129	0.133	0.147	0.155	0.185	0.197

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PROVINCE/ District	Proportions of Children Dead						
	15-19	20-24	25-29	30-34	35-39	40-44	45-49
Malindi							
Male	0.108	0.108	0.116	0.131	0.147	0.186	0.199
Female	0.123	0.117	0.111	0.139	0.147	0.189	0.202
Total	0.116	0.113	0.113	0.135	0.147	0.188	0.200
EASTERN							
Male	0.077	0.072	0.069	0.073	0.080	0.098	0.117
Female	0.084	0.077	0.071	0.085	0.091	0.103	0.118
Total	0.080	0.074	0.070	0.079	0.086	0.101	0.117
Embu							
Male	0.071	0.056	0.046	0.050	0.050	0.063	0.075
Female	0.074	0.068	0.056	0.070	0.073	0.071	0.073
Total	0.072	0.062	0.051	0.059	0.061	0.067	0.074
Isiolo							
Male	0.101	0.100	0.096	0.110	0.123	0.135	0.172
Female	0.108	0.095	0.086	0.116	0.117	0.147	0.162
Total	0.105	0.098	0.091	0.113	0.120	0.141	0.167
Kitui							
Male	0.090	0.099	0.098	0.110	0.124	0.146	0.167
Female	0.097	0.101	0.094	0.115	0.124	0.145	0.161
Total	0.093	0.100	0.096	0.112	0.124	0.145	0.164
Makueni							
Male	0.085	0.070	0.068	0.074	0.078	0.101	0.119
Female	0.089	0.065	0.060	0.080	0.082	0.094	0.113
Total	0.087	0.068	0.064	0.077	0.080	0.098	0.116
Machakos							
Male	0.058	0.060	0.060	0.059	0.068	0.090	0.110
Female	0.059	0.063	0.063	0.072	0.076	0.092	0.104
Total	0.058	0.061	0.061	0.065	0.072	0.091	0.107
Marsabit							
Male	0.079	0.066	0.062	0.071	0.083	0.087	0.121
Female	0.118	0.072	0.070	0.083	0.096	0.105	0.120
Total	0.099	0.069	0.066	0.077	0.090	0.096	0.120
Mbeere							
Male	0.054	0.064	0.065	0.064	0.076	0.090	0.111
Female	0.050	0.066	0.057	0.054	0.068	0.074	0.106
Total	0.052	0.065	0.061	0.059	0.072	0.082	0.108
Meru Central							
Male	0.085	0.059	0.045	0.043	0.043	0.054	0.067
Female	0.100	0.091	0.074	0.089	0.095	0.099	0.104
Total	0.093	0.075	0.060	0.066	0.070	0.077	0.086
Moyale							
Male	0.071	0.078	0.093	0.116	0.122	0.162	0.171
Female	0.115	0.094	0.090	0.114	0.124	0.181	0.173
Total	0.091	0.086	0.091	0.115	0.123	0.171	0.172
Mwingi							
Male	0.096	0.107	0.110	0.114	0.130	0.156	0.186
Female	0.105	0.110	0.112	0.118	0.136	0.156	0.179
Total	0.100	0.108	0.111	0.116	0.133	0.156	0.183
Meru North							
Male	0.064	0.052	0.051	0.053	0.059	0.072	0.084
Female	0.071	0.060	0.053	0.069	0.074	0.083	0.097
Total	0.068	0.056	0.052	0.061	0.067	0.077	0.091
Tharaka							
Male	0.104	0.115	0.115	0.113	0.140	0.161	0.182
Female	0.078	0.113	0.107	0.114	0.132	0.149	0.163
Total	0.091	0.114	0.111	0.114	0.136	0.155	0.172
Meru South							
Male	0.178	0.092	0.069	0.060	0.065	0.071	0.078
Female	0.130	0.087	0.072	0.077	0.080	0.077	0.098
Total	0.153	0.089	0.071	0.069	0.073	0.074	0.088
NORTH EASTERN							
Male	0.116	0.097	0.090	0.097	0.100	0.118	0.118
Female	0.129	0.101	0.104	0.117	0.120	0.137	0.142
Total	0.080	0.074	0.070	0.079	0.086	0.101	0.117
Garissa							
Male	0.118	0.103	0.100	0.096	0.101	0.120	0.117
Female	0.113	0.101	0.107	0.114	0.119	0.130	0.135
Total	0.115	0.102	0.103	0.104	0.109	0.124	0.125

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PROVINCE/ District	Proportions of Children Dead						
	15-19	20-24	25-29	30-34	35-39	40-44	45-49
Mandera							
Male	0.114	0.095	0.096	0.105	0.108	0.125	0.130
Female	0.142	0.094	0.107	0.121	0.130	0.144	0.152
Total	0.127	0.094	0.101	0.113	0.118	0.134	0.140
Wajir							
Male	0.114	0.095	0.078	0.092	0.093	0.111	0.109
Female	0.137	0.107	0.099	0.117	0.112	0.137	0.138
Total	0.125	0.100	0.088	0.103	0.102	0.123	0.122
NYANZA							
Male	0.159	0.173	0.169	0.183	0.189	0.218	0.249
Female	0.164	0.174	0.165	0.182	0.186	0.218	0.247
Total	0.161	0.173	0.167	0.183	0.188	0.218	0.248
Gucha							
Male	0.146	0.107	0.115	0.122	0.140	0.155	0.164
Female	0.134	0.110	0.118	0.133	0.138	0.156	0.160
Total	0.140	0.109	0.117	0.128	0.139	0.155	0.162
Homa Bay							
Male	0.213	0.239	0.240	0.242	0.261	0.287	0.335
Female	0.207	0.232	0.233	0.244	0.257	0.304	0.337
Total	0.210	0.236	0.237	0.243	0.259	0.295	0.336
Kisii Central							
Male	0.108	0.087	0.090	0.104	0.119	0.142	0.161
Female	0.119	0.101	0.096	0.115	0.126	0.149	0.167
Total	0.114	0.094	0.093	0.110	0.123	0.146	0.164
Kisumu							
Male	0.186	0.196	0.187	0.197	0.214	0.237	0.270
Female	0.167	0.185	0.180	0.195	0.207	0.234	0.270
Total	0.176	0.190	0.183	0.196	0.211	0.235	0.270
Kuria							
Male	0.178	0.152	0.157	0.156	0.159	0.183	0.201
Female	0.154	0.160	0.154	0.166	0.160	0.182	0.200
Total	0.166	0.156	0.156	0.161	0.159	0.182	0.200
Migori							
Male	0.206	0.240	0.241	0.245	0.245	0.275	0.310
Female	0.205	0.231	0.223	0.231	0.243	0.274	0.307
Total	0.206	0.236	0.232	0.238	0.244	0.274	0.309
Nyamira							
Male	0.044	0.049	0.052	0.062	0.075	0.096	0.107
Female	0.049	0.051	0.049	0.062	0.072	0.087	0.107
Total	0.046	0.050	0.051	0.062	0.073	0.091	0.107
Rachuonyo							
Male	0.159	0.192	0.195	0.207	0.215	0.243	0.280
Female	0.152	0.185	0.187	0.202	0.214	0.243	0.274
Total	0.155	0.189	0.191	0.204	0.215	0.243	0.277
Siaya							
Male	0.218	0.229	0.230	0.233	0.244	0.271	0.308
Female	0.207	0.228	0.223	0.229	0.240	0.266	0.299
Total	0.213	0.229	0.226	0.232	0.242	0.269	0.303
Suba							
Male	0.216	0.250	0.241	0.245	0.247	0.272	0.305
Female	0.251	0.249	0.227	0.244	0.243	0.277	0.308
Total	0.233	0.250	0.234	0.244	0.245	0.274	0.307
Bondo							
Male	0.140	0.194	0.212	0.218	0.217	0.235	0.272
Female	0.156	0.202	0.200	0.192	0.211	0.235	0.276
Total	0.147	0.198	0.206	0.205	0.214	0.235	0.274
Nyando							
Male	0.173	0.198	0.204	0.222	0.228	0.262	0.297
Female	0.181	0.199	0.194	0.217	0.221	0.259	0.296
Total	0.177	0.199	0.199	0.219	0.225	0.260	0.296
RIFT VALLEY							
Male	0.090	0.076	0.071	0.079	0.090	0.109	0.127
Female	0.090	0.080	0.075	0.092	0.099	0.116	0.131
Total	0.090	0.078	0.073	0.085	0.094	0.112	0.129
Baringo							
Male	0.115	0.088	0.080	0.102	0.116	0.155	0.188
Female	0.104	0.084	0.080	0.104	0.110	0.137	0.169
Total	0.109	0.086	0.080	0.103	0.113	0.146	0.178

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PROVINCE/ District	Proportions of Children Dead						
	15-19	20-24	25-29	30-34	35-39	40-44	45-49
Bomet							
Male	0.065	0.055	0.051	0.054	0.065	0.074	0.093
Female	0.080	0.054	0.055	0.066	0.074	0.082	0.103
Total	0.072	0.055	0.053	0.060	0.070	0.078	0.098
Keiyo							
Male	0.066	0.057	0.052	0.055	0.065	0.099	0.110
Female	0.060	0.057	0.056	0.075	0.074	0.102	0.104
Total	0.063	0.057	0.054	0.064	0.070	0.101	0.107
Kajiado							
Male	0.075	0.072	0.060	0.060	0.067	0.076	0.087
Female	0.087	0.081	0.067	0.088	0.101	0.107	0.110
Total	0.082	0.076	0.064	0.074	0.084	0.091	0.098
Kericho							
Male	0.086	0.079	0.074	0.085	0.098	0.113	0.126
Female	0.123	0.090	0.084	0.095	0.109	0.122	0.136
Total	0.105	0.085	0.079	0.090	0.103	0.118	0.131
Koibatek							
Male	0.080	0.066	0.060	0.058	0.075	0.099	0.111
Female	0.070	0.069	0.058	0.063	0.078	0.093	0.105
Total	0.074	0.067	0.059	0.061	0.076	0.096	0.108
Laikipia							
Male	0.094	0.055	0.049	0.045	0.056	0.066	0.079
Female	0.087	0.077	0.059	0.081	0.094	0.094	0.107
Total	0.091	0.066	0.054	0.063	0.075	0.080	0.093
Marakwet							
Male	0.085	0.054	0.054	0.067	0.083	0.113	0.132
Female	0.090	0.067	0.053	0.080	0.089	0.104	0.135
Total	0.087	0.060	0.054	0.073	0.086	0.109	0.133
Nakuru							
Male	0.098	0.072	0.064	0.065	0.071	0.087	0.104
Female	0.095	0.077	0.065	0.076	0.083	0.094	0.104
Total	0.096	0.075	0.065	0.071	0.077	0.090	0.104
Nandi							
Male	0.096	0.088	0.079	0.088	0.093	0.111	0.138
Female	0.080	0.085	0.085	0.100	0.106	0.123	0.141
Total	0.088	0.087	0.082	0.094	0.099	0.117	0.139
Narok							
Male	0.079	0.072	0.066	0.068	0.081	0.094	0.101
Female	0.068	0.080	0.076	0.099	0.100	0.110	0.135
Total	0.074	0.076	0.071	0.083	0.090	0.102	0.118
Samburu							
Male	0.092	0.061	0.056	0.072	0.083	0.096	0.126
Female	0.116	0.070	0.069	0.089	0.097	0.118	0.143
Total	0.105	0.066	0.062	0.080	0.090	0.107	0.135
Trans Mara							
Male	0.082	0.078	0.090	0.101	0.122	0.137	0.153
Female	0.075	0.066	0.075	0.097	0.107	0.125	0.137
Total	0.079	0.072	0.083	0.099	0.115	0.131	0.145
Trans Nzoia							
Male	0.091	0.085	0.083	0.089	0.102	0.124	0.141
Female	0.090	0.089	0.082	0.096	0.106	0.126	0.146
Total	0.090	0.087	0.083	0.093	0.104	0.125	0.143
Turkana							
Male	0.133	0.104	0.102	0.126	0.134	0.160	0.172
Female	0.133	0.115	0.110	0.132	0.142	0.169	0.175
Total	0.133	0.109	0.106	0.128	0.138	0.164	0.174
Uasin Gishu							
Male	0.089	0.075	0.062	0.067	0.073	0.091	0.111
Female	0.089	0.083	0.070	0.084	0.083	0.100	0.114
Total	0.089	0.079	0.066	0.075	0.078	0.095	0.113
West Pokot							
Male	0.115	0.109	0.121	0.140	0.169	0.201	0.238
Female	0.112	0.104	0.108	0.144	0.157	0.191	0.218
Total	0.113	0.106	0.115	0.142	0.163	0.196	0.228
Buret							
Male	0.084	0.060	0.061	0.066	0.076	0.092	0.096
Female	0.060	0.057	0.058	0.074	0.077	0.088	0.093
Total	0.072	0.058	0.059	0.070	0.076	0.090	0.095

Kenya 1999 Population and Housing Census

PROVINCE/ District	Proportions of Children Dead						
	15-19	20-24	25-29	30-34	35-39	40-44	45-49
WESTERN							
Male	0.138	0.142	0.145	0.152	0.163	0.185	0.210
Female	0.132	0.138	0.136	0.150	0.158	0.176	0.199
Total	0.135	0.140	0.141	0.151	0.161	0.181	0.204
Bungoma							
Male	0.123	0.117	0.130	0.138	0.145	0.167	0.188
Female	0.123	0.117	0.120	0.133	0.142	0.157	0.179
Total	0.123	0.117	0.125	0.135	0.143	0.162	0.184
Busia							
Male	0.175	0.193	0.186	0.193	0.204	0.236	0.277
Female	0.145	0.171	0.168	0.181	0.192	0.219	0.249
Total	0.160	0.182	0.177	0.187	0.198	0.228	0.263
Mt. Elgon							
Male	0.121	0.103	0.104	0.117	0.136	0.156	0.181
Female	0.112	0.097	0.106	0.116	0.124	0.145	0.163
Total	0.117	0.100	0.105	0.116	0.130	0.151	0.172
Kakamega							
Male	0.130	0.144	0.150	0.157	0.169	0.197	0.217
Female	0.123	0.147	0.145	0.158	0.169	0.189	0.209
Total	0.126	0.146	0.147	0.158	0.169	0.193	0.213
Lugarl							
Male	0.080	0.106	0.103	0.108	0.118	0.137	0.153
Female	0.101	0.108	0.105	0.116	0.117	0.131	0.144
Total	0.091	0.107	0.104	0.112	0.117	0.134	0.148
Teso							
Male	0.144	0.142	0.144	0.150	0.164	0.197	0.237
Female	0.136	0.133	0.133	0.149	0.158	0.188	0.213
Total	0.140	0.137	0.138	0.150	0.161	0.192	0.225
Vihiga							
Male	0.130	0.120	0.124	0.137	0.145	0.153	0.177
Female	0.137	0.126	0.122	0.139	0.145	0.157	0.175
Total	0.134	0.123	0.123	0.138	0.145	0.155	0.176
Butere/Mumias							
Male	0.161	0.176	0.179	0.180	0.201	0.223	0.247
Female	0.153	0.165	0.162	0.180	0.184	0.206	0.239
Total	0.157	0.170	0.171	0.180	0.193	0.215	0.243

Appendix 5 Proportions of Children Dead by Mother's Education, 1999

PROVINCE/ District	Level of Education			PROVINCE/ District	Level of Education		
	None	Primary	Secondary+		None	Primary	Secondary+
KENYA	0.156	0.118	0.082	RIFT VALLEY	0.123	0.084	0.069
NAIROBI	0.132	0.106	0.074	Baringo	0.149	0.096	0.071
CENTRAL	0.094	0.062	0.058	Bomet	0.091	0.062	0.057
Kiambu	0.094	0.065	0.060	Keiyo	0.123	0.073	0.053
Kirinyaga	0.106	0.071	0.064	Kajiado	0.078	0.081	0.084
Murang'a	0.085	0.057	0.053	Kericho	0.140	0.096	0.073
Nyandarua	0.087	0.059	0.061	Koibatek	0.120	0.069	0.057
Nyeri	0.072	0.047	0.046	Laikipia	0.082	0.067	0.074
Thika	0.107	0.072	0.067	Marakwet	0.121	0.072	0.062
Maragua	0.094	0.062	0.053	Nakuru	0.111	0.076	0.065
COAST	0.175	0.116	0.087	Nandi	0.143	0.099	0.077
Kilifi	0.186	0.120	0.096	Narok	0.090	0.085	0.083
Kwale	0.185	0.144	0.123	Samburu	0.092	0.081	0.068
Lamu	0.169	0.104	0.079	Trans Mara	0.118	0.097	0.073
Mombasa	0.139	0.099	0.075	Trans Nzoia	0.145	0.101	0.077
Taita Taveta	0.149	0.106	0.087	Turkana	0.142	0.129	0.087
Tana River	0.167	0.134	0.096	Uasin Gishu	0.119	0.080	0.067
Malindi	0.168	0.117	0.104	West Pokot	0.180	0.100	0.069
EASTERN	0.123	0.081	0.067	Buret	0.110	0.071	0.058
Embu	0.082	0.061	0.057	WESTERN	0.219	0.162	0.112
Isiolo	0.134	0.097	0.061	Bungoma	0.197	0.151	0.105
Kitui	0.130	0.110	0.089	Busia	0.251	0.192	0.132
Makueni	0.128	0.083	0.068	Mt. Elgon	0.172	0.128	0.092
Machakos	0.122	0.077	0.062	Kakamega	0.219	0.172	0.118
Marsabit	0.088	0.082	0.056	Lugari	0.159	0.124	0.087
Mbeere	0.101	0.072	0.054	Teso	0.209	0.159	0.110
Meru Central	0.097	0.069	0.069	Vihiga	0.199	0.148	0.109
Moyale	0.132	0.084	0.058	Butere/Mumias	0.240	0.187	0.134
Mwingi	0.170	0.118	0.094				
Meru North	0.082	0.059	0.050				
Tharaka	0.162	0.122	0.085				
Nithi (Meru S.)	0.120	0.076	0.064				
NORTH EASTERN	0.111	0.119	0.095				
Garissa	0.110	0.128	0.099				
Mandera	0.118	0.104	0.085				
Wajir	0.106	0.115	0.092				
NYANZA	0.262	0.196	0.115				
Gucha (Kisii S.)	0.181	0.138	0.096				
Homa Bay	0.341	0.257	0.161				
Kisii Central	0.186	0.119	0.076				
Kisumu	0.305	0.223	0.125				
Kuria	0.192	0.158	0.107				
Migori	0.316	0.250	0.158				
Nyamira (Kisii N.)	0.108	0.071	0.052				
Rachuonyo	0.291	0.216	0.148				
Siaya	0.308	0.243	0.165				
Suba	0.308	0.254	0.176				
Bondo	0.283	0.219	0.162				
Nyando	0.316	0.230	0.151				

Kenya 1999 Population and Housing Census

Appendix 6 Proportions of Children Dead by Urban/Rural and District, 1999

PROVINCE/ District	Proportions of Children Dead							
	15-19	20-24	25-29	30- 34	35-39	40-44	45-49	Total
KENYA								
Urban	0.117	0.106	0.088	0.095	0.101	0.115	0.127	0.103
Rural	0.117	0.109	0.102	0.114	0.121	0.142	0.159	0.126
Total	0.117	0.108	0.099	0.110	0.118	0.139	0.156	0.122
NAIROBI								
Total	0.114	0.102	0.082	0.087	0.091	0.099	0.104	0.093
CENTRAL								
Urban	0.122	0.085	0.060	0.069	0.073	0.075	0.087	0.074
Rural	0.101	0.064	0.050	0.055	0.059	0.066	0.078	0.063
Total	0.104	0.068	0.051	0.057	0.060	0.067	0.079	0.064
Kiambu								
Urban	0.124	0.079	0.055	0.066	0.067	0.067	0.080	0.069
Rural	0.109	0.069	0.053	0.059	0.062	0.065	0.077	0.065
Total	0.113	0.071	0.054	0.061	0.063	0.065	0.078	0.066
Kirinyaga								
Urban	0.112	0.129	0.070	0.084	0.092	0.085	0.102	0.091
Rural	0.099	0.072	0.057	0.064	0.070	0.079	0.095	0.074
Total	0.100	0.076	0.058	0.066	0.071	0.079	0.095	0.075
Murang'a								
Urban	0.094	0.120	0.071	0.074	0.096	0.110	0.077	0.090
Rural	0.093	0.058	0.045	0.051	0.050	0.060	0.077	0.058
Total	0.093	0.060	0.046	0.052	0.052	0.061	0.077	0.059
Nyandarua								
Urban	0.101	0.066	0.049	0.056	0.057	0.070	0.091	0.064
Rural	0.101	0.062	0.049	0.054	0.060	0.066	0.081	0.062
Total	0.101	0.062	0.049	0.054	0.060	0.067	0.082	0.063
Nyeri								
Urban	0.063	0.067	0.050	0.061	0.054	0.055	0.078	0.059
Rural	0.086	0.050	0.037	0.043	0.043	0.048	0.057	0.047
Total	0.083	0.053	0.039	0.046	0.044	0.049	0.058	0.048
Thika								
Urban	0.146	0.094	0.070	0.077	0.090	0.089	0.096	0.086
Rural	0.116	0.072	0.055	0.060	0.068	0.076	0.085	0.070
Total	0.125	0.079	0.059	0.064	0.073	0.079	0.086	0.074
Maragua								
Urban	0.114	0.084	0.047	0.062	0.064	0.095	0.088	0.070
Rural	0.088	0.063	0.051	0.053	0.057	0.070	0.082	0.064
Total	0.089	0.064	0.051	0.054	0.057	0.070	0.082	0.064
COAST								
Urban	0.102	0.101	0.093	0.101	0.110	0.126	0.143	0.109
Rural	0.129	0.126	0.126	0.140	0.156	0.185	0.204	0.158
Total	0.120	0.117	0.114	0.127	0.143	0.172	0.191	0.141
Kilifi								
Urban	0.141	0.120	0.109	0.111	0.133	0.163	0.163	0.130
Rural	0.139	0.129	0.126	0.141	0.164	0.200	0.223	0.168
Total	0.139	0.128	0.124	0.138	0.161	0.197	0.218	0.164
Kwale								
Urban	0.139	0.124	0.119	0.126	0.143	0.158	0.178	0.138
Rural	0.139	0.142	0.142	0.157	0.178	0.197	0.223	0.174
Total	0.139	0.140	0.139	0.153	0.174	0.194	0.219	0.170
Lamu								
Urban	0.108	0.123	0.114	0.104	0.130	0.129	0.172	0.127
Rural	0.133	0.103	0.116	0.119	0.131	0.148	0.177	0.136
Total	0.127	0.108	0.116	0.116	0.131	0.144	0.177	0.134
Mombasa								
Total	0.089	0.095	0.087	0.094	0.101	0.116	0.134	0.101
Taita Taveta								
Urban	0.152	0.102	0.096	0.115	0.118	0.131	0.149	0.118
Rural	0.104	0.098	0.086	0.098	0.109	0.120	0.141	0.112
Total	0.113	0.099	0.088	0.101	0.110	0.121	0.142	0.113
Tana River								
Urban	0.109	0.099	0.124	0.123	0.143	0.165	0.213	0.143
Rural	0.123	0.131	0.134	0.150	0.156	0.186	0.195	0.158
Total	0.122	0.129	0.133	0.147	0.155	0.185	0.197	0.157
Malindi								
Urban	0.137	0.119	0.101	0.122	0.129	0.141	0.172	0.127
Rural	0.112	0.111	0.116	0.138	0.150	0.194	0.204	0.154
Total	0.116	0.113	0.113	0.135	0.147	0.188	0.200	0.149

Volume V: Analytical Report on Mortality

PROVINCE/ District	Proportions of Children Dead							Total
15-19	20-24	25-29	30- 34	35-39	40-44	45-49		
EASTERN								
Urban	0.096	0.089	0.074	0.085	0.089	0.106	0.121	0.092
Rural	0.079	0.073	0.070	0.078	0.085	0.101	0.117	0.089
Total	0.080	0.074	0.070	0.079	0.086	0.101	0.117	0.087
Embu								
Urban	0.082	0.107	0.071	0.083	0.089	0.090	0.106	0.088
Rural	0.071	0.054	0.048	0.056	0.058	0.065	0.072	0.060
Total	0.072	0.062	0.051	0.059	0.061	0.067	0.074	0.063
Isiolo								
Urban	0.081	0.094	0.077	0.103	0.109	0.131	0.162	0.109
Rural	0.112	0.099	0.097	0.118	0.125	0.145	0.168	0.126
Total	0.105	0.098	0.091	0.113	0.120	0.141	0.167	0.121
Kitui								
Urban	0.081	0.107	0.086	0.102	0.126	0.137	0.129	0.110
Rural	0.094	0.100	0.097	0.113	0.124	0.146	0.164	0.126
Total	0.093	0.100	0.096	0.112	0.124	0.145	0.164	0.125
Makueni								
Urban	0.082	0.074	0.067	0.069	0.075	0.084	0.122	0.078
Rural	0.087	0.067	0.064	0.077	0.080	0.098	0.116	0.086
Total	0.087	0.068	0.064	0.077	0.080	0.098	0.116	0.086
Machakos								
Urban	0.105	0.077	0.067	0.081	0.073	0.095	0.114	0.082
Rural	0.055	0.060	0.061	0.064	0.072	0.091	0.107	0.078
Total	0.058	0.061	0.061	0.065	0.072	0.091	0.107	0.078
Marsabit								
Urban	0.087	0.060	0.072	0.080	0.080	0.103	0.125	0.087
Rural	0.100	0.070	0.065	0.077	0.091	0.095	0.120	0.087
Total	0.099	0.069	0.066	0.077	0.090	0.096	0.120	0.087
Mbeere								
Urban	0.077	0.173	0.077	0.100	0.053	0.122	0.168	0.103
Rural	0.052	0.064	0.061	0.058	0.073	0.082	0.108	0.076
Total	0.052	0.065	0.061	0.059	0.072	0.082	0.108	0.076
Meru Central								
Urban	0.126	0.111	0.081	0.090	0.096	0.102	0.100	0.096
Rural	0.088	0.070	0.057	0.063	0.067	0.075	0.085	0.070
Total	0.093	0.075	0.060	0.066	0.070	0.077	0.086	0.073
Moyale								
Urban	0.055	0.079	0.092	0.094	0.120	0.148	0.174	0.111
Rural	0.100	0.088	0.091	0.120	0.124	0.175	0.171	0.129
Total	0.091	0.086	0.091	0.115	0.123	0.171	0.172	0.126
Mwingi								
Urban	0.128	0.140	0.119	0.104	0.115	0.182	0.182	0.133
Rural	0.099	0.107	0.111	0.116	0.133	0.155	0.183	0.136
Total	0.100	0.108	0.111	0.116	0.133	0.156	0.183	0.136
Meru North								
Urban	0.070	0.042	0.045	0.048	0.053	0.057	0.076	0.051
Rural	0.068	0.056	0.052	0.061	0.067	0.078	0.091	0.068
Total	0.068	0.056	0.052	0.061	0.067	0.077	0.091	0.067
Tharaka								
Total	0.091	0.114	0.111	0.114	0.136	0.155	0.172	0.136
Meru South								
Urban	0.163	0.070	0.064	0.065	0.046	0.065	0.065	0.063
Rural	0.153	0.090	0.071	0.069	0.073	0.074	0.088	0.078
Total	0.153	0.089	0.071	0.069	0.073	0.074	0.088	0.078
NORTH EASTERN								
Urban	0.160	0.123	0.119	0.129	0.140	0.164	0.172	0.141
Rural	0.115	0.095	0.093	0.103	0.104	0.121	0.121	0.106
Total	0.122	0.099	0.096	0.106	0.109	0.127	0.129	0.113
Garissa								
Urban	0.164	0.132	0.130	0.137	0.153	0.156	0.161	0.145
Rural	0.101	0.094	0.096	0.097	0.098	0.117	0.116	0.103
Total	0.115	0.102	0.103	0.104	0.109	0.124	0.125	0.111
Mandera								
Urban	0.147	0.109	0.108	0.123	0.140	0.165	0.180	0.138
Rural	0.122	0.091	0.099	0.110	0.113	0.127	0.131	0.113
Total	0.127	0.094	0.101	0.113	0.118	0.134	0.140	0.118
Wajir								
Urban	0.170	0.129	0.113	0.130	0.105	0.176	0.183	0.138
Rural	0.122	0.098	0.086	0.102	0.101	0.120	0.118	0.104
Total	0.125	0.100	0.088	0.103	0.102	0.123	0.122	0.106

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PROVINCE/ District	Proportions of Children Dead							
	15-19	20-24	25-29	30- 34	35-39	40-44	45-49	Total
NYANZA								
Urban	0.156	0.159	0.139	0.139	0.144	0.164	0.192	0.151
Rural	0.162	0.175	0.170	0.187	0.191	0.222	0.251	0.199
Total	0.161	0.173	0.167	0.183	0.188	0.218	0.248	0.191
Gucha								
Urban	0.149	0.139	0.096	0.096	0.099	0.078	0.096	0.102
Rural	0.140	0.108	0.117	0.128	0.140	0.156	0.163	0.137
Total	0.140	0.109	0.117	0.128	0.139	0.155	0.162	0.136
Homa Bay								
Urban	0.207	0.196	0.180	0.161	0.173	0.205	0.277	0.191
Rural	0.210	0.241	0.244	0.252	0.268	0.303	0.340	0.273
Total	0.210	0.236	0.237	0.243	0.259	0.295	0.336	0.265
Kisii Central								
Urban	0.097	0.081	0.068	0.084	0.082	0.106	0.104	0.085
Rural	0.115	0.095	0.094	0.111	0.124	0.147	0.166	0.124
Total	0.114	0.094	0.093	0.110	0.123	0.146	0.164	0.122
Kisumu								
Urban	0.155	0.150	0.135	0.137	0.144	0.153	0.177	0.147
Rural	0.190	0.218	0.217	0.227	0.240	0.263	0.293	0.244
Total	0.176	0.190	0.183	0.196	0.211	0.235	0.270	0.213
Kuria								
Urban	0.122	0.183	0.159	0.143	0.169	0.177	0.222	0.168
Rural	0.170	0.154	0.155	0.163	0.159	0.183	0.199	0.167
Total	0.166	0.156	0.156	0.161	0.159	0.182	0.200	0.167
Migori								
Urban	0.184	0.185	0.161	0.171	0.171	0.218	0.233	0.182
Rural	0.208	0.215	0.240	0.245	0.251	0.278	0.312	0.258
Total	0.206	0.236	0.232	0.238	0.244	0.274	0.309	0.252
Nyamira								
Urban	0.067	0.081	0.078	0.065	0.066	0.091	0.090	0.075
Rural	0.045	0.049	0.049	0.062	0.074	0.091	0.107	0.071
Total	0.046	0.050	0.051	0.062	0.073	0.091	0.107	0.071
Rachuonyo								
Urban	0.162	0.162	0.140	0.145	0.134	0.171	0.260	0.155
Rural	0.155	0.190	0.193	0.206	0.216	0.244	0.277	0.221
Total	0.155	0.189	0.191	0.204	0.215	0.243	0.277	0.219
Siaya								
Urban	0.182	0.163	0.176	0.154	0.168	0.173	0.221	0.172
Rural	0.214	0.232	0.229	0.235	0.244	0.271	0.305	0.256
Total	0.213	0.229	0.227	0.232	0.242	0.269	0.303	0.253
Suba								
Urban	0.159	0.218	0.199	0.197	0.222	0.254	0.262	0.214
Rural	0.236	0.252	0.236	0.247	0.246	0.275	0.307	0.259
Total	0.233	0.250	0.234	0.244	0.245	0.275	0.307	0.257
Bondo								
Urban	0.160	0.215	0.199	0.165	0.200	0.205	0.330	0.202
Rural	0.146	0.196	0.207	0.208	0.215	0.236	0.273	0.221
Total	0.147	0.198	0.206	0.206	0.214	0.235	0.274	0.221
Nyando								
Urban	0.141	0.167	0.130	0.150	0.146	0.182	0.213	0.156
Rural	0.182	0.203	0.209	0.227	0.232	0.265	0.300	0.241
Total	0.177	0.189	0.199	0.219	0.225	0.260	0.296	0.234
RIFT VALLEY								
Urban	0.110	0.095	0.079	0.087	0.092	0.109	0.124	0.095
Rural	0.087	0.075	0.072	0.085	0.095	0.113	0.130	0.095
Total	0.090	0.078	0.073	0.085	0.094	0.112	0.129	0.095
Baringo								
Urban	0.146	0.117	0.093	0.090	0.093	0.141	0.145	0.108
Rural	0.107	0.084	0.079	0.104	0.114	0.146	0.179	0.120
Total	0.109	0.086	0.080	0.103	0.113	0.146	0.178	0.119
Bomet								
Urban	0.071	0.069	0.082	0.085	0.100	0.109	0.104	0.088
Rural	0.072	0.055	0.053	0.059	0.069	0.078	0.098	0.069
Total	0.072	0.055	0.053	0.060	0.070	0.078	0.098	0.069
Keiyo								
Urban	0.034	0.028	0.041	0.036	0.051	0.164	0.153	0.061
Rural	0.064	0.058	0.055	0.066	0.070	0.099	0.106	0.075
Total	0.063	0.057	0.054	0.064	0.070	0.101	0.107	0.075

Volume V: Analytical Report on Mortality

PROVINCE/ District	Proportions of Children Dead						Total
	15-19	20-24	25-29	30- 34	35-39	40-44	
Kajiado							
Urban	0.136	0.109	0.079	0.090	0.093	0.103	0.097
Rural	0.072	0.068	0.060	0.070	0.082	0.089	0.076
Total	0.082	0.076	0.064	0.074	0.084	0.091	0.080
Kericho							
Urban	0.101	0.110	0.083	0.084	0.094	0.107	0.097
Rural	0.105	0.083	0.079	0.090	0.104	0.118	0.101
Total	0.105	0.085	0.079	0.090	0.103	0.118	0.101
Koibatek							
Urban	0.142	0.077	0.068	0.071	0.093	0.112	0.089
Rural	0.055	0.065	0.057	0.058	0.073	0.093	0.076
Total	0.074	0.067	0.059	0.061	0.076	0.096	0.078
Laikipia							
Urban	0.109	0.085	0.066	0.075	0.094	0.106	0.086
Rural	0.086	0.060	0.051	0.060	0.071	0.076	0.069
Total	0.091	0.066	0.054	0.063	0.075	0.080	0.072
Marakwet							
Total	0.087	0.060	0.054	0.073	0.086	0.109	0.087
Nakuru							
Urban	0.107	0.089	0.074	0.078	0.084	0.098	0.087
Rural	0.091	0.068	0.060	0.067	0.074	0.088	0.077
Total	0.096	0.075	0.065	0.071	0.077	0.090	0.080
Nandi							
Urban	0.074	0.084	0.079	0.108	0.095	0.095	0.097
Rural	0.089	0.087	0.082	0.094	0.100	0.118	0.103
Total	0.088	0.087	0.082	0.094	0.099	0.117	0.103
Narok							
Urban	0.088	0.081	0.065	0.091	0.077	0.074	0.081
Rural	0.073	0.075	0.071	0.082	0.091	0.103	0.088
Total	0.074	0.076	0.071	0.083	0.090	0.102	0.088
Samburu							
Urban	0.123	0.072	0.077	0.098	0.098	0.112	0.103
Rural	0.099	0.064	0.059	0.076	0.088	0.106	0.087
Total	0.105	0.066	0.062	0.080	0.090	0.107	0.090
Trans Mara							
Urban	0.100	0.083	0.089	0.108	0.089	0.156	0.110
Rural	0.078	0.072	0.083	0.099	0.116	0.130	0.106
Total	0.079	0.072	0.083	0.099	0.115	0.131	0.106
Trans Nzoia							
Urban	0.101	0.113	0.094	0.094	0.104	0.121	0.105
Rural	0.090	0.084	0.082	0.093	0.104	0.125	0.106
Total	0.090	0.087	0.083	0.093	0.104	0.125	0.106
Turkana							
Urban	0.124	0.107	0.116	0.141	0.163	0.206	0.153
Rural	0.134	0.110	0.105	0.128	0.136	0.163	0.139
Total	0.133	0.109	0.106	0.128	0.138	0.164	0.140
Uasin Gishu							
Urban	0.117	0.102	0.085	0.095	0.092	0.108	0.098
Rural	0.073	0.067	0.057	0.068	0.073	0.092	0.078
Total	0.089	0.079	0.066	0.075	0.078	0.095	0.083
West Pokot							
Urban	0.069	0.096	0.074	0.100	0.114	0.144	0.106
Rural	0.116	0.107	0.117	0.144	0.165	0.198	0.160
Total	0.113	0.106	0.115	0.142	0.163	0.196	0.158
Buret							
Urban	0.028	0.089	0.101	0.111	0.062	0.139	0.096
Rural	0.073	0.058	0.058	0.069	0.076	0.089	0.074
Total	0.072	0.058	0.059	0.070	0.076	0.090	0.074
WESTERN							
Urban	0.116	0.125	0.113	0.120	0.129	0.146	0.131
Rural	0.137	0.141	0.143	0.154	0.163	0.183	0.167
Total	0.135	0.140	0.141	0.151	0.161	0.181	0.159
Bungoma							
Urban	0.121	0.108	0.101	0.110	0.119	0.124	0.117
Rural	0.130	0.118	0.128	0.138	0.146	0.165	0.149
Total	0.123	0.117	0.125	0.135	0.143	0.162	0.146
Busia							
Urban	0.144	0.166	0.145	0.165	0.174	0.194	0.175
Rural	0.161	0.183	0.180	0.189	0.200	0.230	0.207
Total	0.160	0.182	0.177	0.187	0.198	0.228	0.205

Kenya 1999 Population and Housing Census

PROVINCE/ District	Proportions of Children Dead							Total
	15-19	20-24	25-29	30-34	35-39	40-44	45-49	
Mt Elgon								
Urban	0.052	0.095	0.050	0.112	0.101	0.109	0.165	0.099
Rural	0.119	0.100	0.108	0.116	0.131	0.152	0.172	0.132
Total	0.117	0.100	0.105	0.116	0.130	0.151	0.172	0.131
Kakamega								
Urban	0.073	0.115	0.110	0.109	0.112	0.141	0.158	0.121
Rural	0.132	0.149	0.151	0.162	0.174	0.197	0.216	0.177
Total	0.126	0.146	0.147	0.158	0.169	0.193	0.213	0.173
Lugari								
Urban	0.084	0.096	0.092	0.092	0.114	0.154	0.144	0.113
Rural	0.091	0.108	0.105	0.113	0.117	0.133	0.149	0.121
Total	0.091	0.107	0.104	0.112	0.117	0.134	0.148	0.121
Teso								
Urban	0.149	0.137	0.123	0.134	0.133	0.159	0.219	0.144
Rural	0.139	0.137	0.141	0.152	0.164	0.195	0.226	0.170
Total	0.140	0.137	0.138	0.150	0.161	0.193	0.225	0.167
Vihiga								
Urban	0.104	0.111	0.112	0.112	0.133	0.138	0.162	0.129
Rural	0.136	0.124	0.124	0.140	0.146	0.156	0.177	0.149
Total	0.134	0.123	0.123	0.138	0.145	0.155	0.176	0.148
Butere/Mumias								
Urban	0.140	0.147	0.131	0.133	0.144	0.180	0.191	0.150
Rural	0.158	0.172	0.174	0.184	0.197	0.217	0.245	0.199
Total	0.157	0.170	0.171	0.180	0.193	0.215	0.243	0.195

Appendix 7 Proportions of Males with Mother Alive, 1999

PROVINCE/ District	Proportions with Mother Alive						
	15-19	20-24	25-29	30-34	35-39	40-44	45-49
KENYA	0.9400	0.9181	0.8885	0.8464	0.7955	0.7062	0.6007
NAIROBI	0.9259	0.9143	0.8938	0.8617	0.8198	0.7467	0.6507
CENTRAL	0.9577	0.9392	0.9129	0.8805	0.8346	0.7591	0.6509
Kiambu	0.9530	0.9339	0.9116	0.8779	0.8334	0.7600	0.6530
Kirinyaga	0.9626	0.9431	0.9148	0.8855	0.8304	0.7606	0.6602
Murang'a	0.9549	0.9356	0.9101	0.8736	0.8307	0.7410	0.6249
Nyandarua	0.9664	0.9421	0.9159	0.8851	0.8400	0.7694	0.6638
Nyeri	0.9599	0.9453	0.9180	0.8819	0.8334	0.7648	0.6504
Thika	0.9496	0.9351	0.9083	0.8784	0.8368	0.7596	0.6582
Maragua	0.9603	0.9433	0.9130	0.8819	0.8384	0.7481	0.6338
COAST	0.9304	0.9024	0.8718	0.8245	0.7683	0.6720	0.5632
Kilifi	0.9470	0.9235	0.8903	0.8429	0.7852	0.6941	0.5778
Kwale	0.9284	0.9015	0.8561	0.8060	0.7419	0.6269	0.5132
Lamu	0.9303	0.8980	0.8639	0.8100	0.7284	0.6215	0.5185
Mombasa	0.9147	0.8922	0.8717	0.8289	0.7798	0.6888	0.5869
Taita Taveta	0.9260	0.9022	0.8760	0.8317	0.7666	0.6859	0.5733
Tana River	0.9107	0.8786	0.8269	0.7468	0.7063	0.5943	0.4757
Malindi	0.9538	0.9269	0.8914	0.8467	0.7939	0.7121	0.6162
EASTERN	0.9505	0.9343	0.9041	0.8652	0.8172	0.7330	0.6224
Embu	0.9643	0.9466	0.9233	0.8861	0.8469	0.7727	0.6463
Isiolo	0.9186	0.8868	0.8414	0.7626	0.7245	0.6253	0.5167
Kitui	0.9354	0.9205	0.8938	0.8590	0.8071	0.7262	0.6115
Makueni	0.9443	0.9269	0.9009	0.8691	0.8286	0.7573	0.6361
Machakos	0.9468	0.9343	0.9069	0.8736	0.8376	0.7682	0.6717
Marsabit	0.9377	0.9202	0.8635	0.7891	0.7013	0.6182	0.5066
Mbeere	0.9582	0.9398	0.9102	0.8840	0.8242	0.7283	0.6046
Meru Central	0.9643	0.9496	0.9215	0.8847	0.8417	0.7624	0.6503
Moyale	0.9102	0.8714	0.8336	0.7377	0.6617	0.5757	0.4969
Mwingi	0.9467	0.9225	0.9003	0.8707	0.8116	0.7297	0.6166
Meru North	0.9634	0.9427	0.9020	0.8536	0.7899	0.6770	0.5664
Tharaka	0.9525	0.9239	0.8810	0.8361	0.7812	0.6315	0.5089
Nithi (Meru S.)	0.9695	0.9509	0.9222	0.8828	0.8337	0.7557	0.6458
N.EASTERN	0.9209	0.8884	0.8266	0.7406	0.6740	0.5680	0.4959
Garissa	0.9175	0.8912	0.8321	0.7629	0.7004	0.5831	0.5124
Mandera	0.9290	0.8885	0.8306	0.7448	0.6885	0.5892	0.5145
Wajir	0.9176	0.8857	0.8185	0.7187	0.6407	0.5394	0.4675
NYANZA	0.9054	0.8804	0.8492	0.8020	0.7497	0.6530	0.5370
Gucha (Kisii S.)	0.9555	0.9271	0.8891	0.8497	0.7904	0.7217	0.6086
Homa Bay	0.8800	0.8625	0.8312	0.7754	0.7120	0.5911	0.4796
Kisii Central	0.9461	0.9099	0.8644	0.8186	0.7628	0.6734	0.5853
Kisumu	0.8722	0.8533	0.8284	0.7846	0.7428	0.6473	0.5206
Kuria	0.9371	0.8962	0.8626	0.8173	0.7758	0.6794	0.5614
Migori	0.8913	0.8621	0.8385	0.7891	0.7339	0.6426	0.5160
Nyamira (Kisii N.)	0.9523	0.9272	0.8895	0.8447	0.7852	0.7131	0.6155
Rachuonyo	0.8868	0.8696	0.8391	0.7881	0.7368	0.6147	0.4996
Siaya	0.8724	0.8474	0.8123	0.7681	0.7066	0.6020	0.4646
Suba	0.8809	0.8594	0.8422	0.7796	0.7514	0.6163	0.5177
Bondo	0.8637	0.8462	0.8240	0.7855	0.7261	0.6465	0.5214
Nyando	0.8750	0.8616	0.8361	0.7850	0.7340	0.6217	0.5162
RIFT VALLEY	0.9545	0.9297	0.8973	0.8534	0.8001	0.7142	0.6121
Baringo	0.9535	0.9281	0.8802	0.8147	0.7444	0.6474	0.5574
Bomet	0.9653	0.9476	0.9207	0.8866	0.8466	0.7892	0.7076
Keiyo	0.9608	0.9307	0.8852	0.8427	0.7938	0.6858	0.6037
Kajiado	0.9494	0.9258	0.8968	0.8622	0.8235	0.7415	0.6384
Kericho	0.9523	0.9262	0.8952	0.8572	0.8019	0.7223	0.6360
Koibatek	0.9551	0.9361	0.9030	0.8588	0.8025	0.7228	0.6061
Laikipia	0.9580	0.9368	0.9121	0.8807	0.8463	0.7451	0.6411
Marakwet	0.9623	0.9294	0.8911	0.8343	0.7878	0.6798	0.5703
Nakuru	0.9511	0.9273	0.9020	0.8651	0.8211	0.7449	0.6442
Nandi	0.9549	0.9280	0.8938	0.8558	0.7988	0.7231	0.6163
Narok	0.9612	0.9357	0.9029	0.8639	0.8117	0.7496	0.6588
Samburu	0.9404	0.9180	0.8950	0.8435	0.7742	0.6776	0.5453
Trans Mara	0.9613	0.9384	0.8996	0.8566	0.8116	0.7490	0.6744
Trans Nzoia	0.9526	0.9299	0.8980	0.8562	0.8052	0.7306	0.6226
Turkana	0.9592	0.9273	0.8739	0.7584	0.6430	0.4978	0.3810
Uasin Gishu	0.9514	0.9326	0.9047	0.8592	0.8110	0.7346	0.6379
West Pokot	0.9393	0.9039	0.8508	0.7977	0.7251	0.6153	0.5072
Buret	0.9646	0.9368	0.9071	0.8643	0.8114	0.7393	0.6459

Kenya 1999 Population and Housing Census

Appendix 7 continued

PROVINCE/ District	15-19	Proportions with Mother Alive			35-39	40-44	45-49
		20-24	25-29	30-34			
WESTERN	0.9427	0.9174	0.8810	0.8341	0.7808	0.6910	0.5729
Bungoma	0.9568	0.9354	0.9020	0.8566	0.8125	0.7283	0.6268
Busia	0.9102	0.8724	0.8314	0.7814	0.7238	0.6330	0.4900
Mt Elgon	0.9561	0.9284	0.8899	0.8674	0.8190	0.7507	0.6227
Kakamega	0.9435	0.9191	0.8847	0.8358	0.7817	0.6916	0.5700
Iugari	0.9479	0.9244	0.8930	0.8540	0.8161	0.7516	0.6358
Teso	0.9261	0.8931	0.8467	0.8038	0.7452	0.6335	0.4945
Vihiga	0.9439	0.9211	0.8822	0.8335	0.7693	0.6728	0.5590
Butere/Mumias	0.9376	0.9111	0.8720	0.8192	0.7549	0.6575	0.5460

Appendix 8 Proportions of Males with Father Alive, 1999

PROVINCE/ District	15-19	Proportions with Father Alive			35-39	40-44	45-49
		20-24	25-29	30-34			
KENYA	0.843	0.786	0.715	0.628	0.539	0.425	0.316
NAIROBI	0.836	0.796	0.742	0.669	0.589	0.482	0.375
CENTRAL	0.857	0.809	0.739	0.656	0.567	0.456	0.336
Kiambu	0.840	0.800	0.733	0.650	0.562	0.452	0.334
Kirinyaga	0.867	0.813	0.746	0.666	0.577	0.480	0.370
Murang'a	0.865	0.802	0.715	0.612	0.532	0.408	0.284
Nyandarua	0.855	0.807	0.750	0.676	0.596	0.474	0.361
Nyeri	0.859	0.818	0.743	0.660	0.564	0.456	0.333
Thika	0.851	0.805	0.740	0.658	0.573	0.463	0.340
Maragua	0.870	0.822	0.735	0.651	0.554	0.433	0.321
COAST	0.830	0.768	0.697	0.608	0.515	0.399	0.293
Kilifi	0.822	0.756	0.675	0.576	0.484	0.369	0.261
Kwale	0.834	0.762	0.680	0.588	0.500	0.391	0.283
Lamu	0.859	0.794	0.708	0.617	0.516	0.394	0.293
Mombasa	0.824	0.773	0.716	0.634	0.549	0.429	0.322
Taita Taveta	0.824	0.763	0.686	0.610	0.503	0.402	0.299
Tana River	0.836	0.758	0.663	0.563	0.448	0.349	0.250
Malindi	0.847	0.778	0.690	0.591	0.507	0.391	0.299
EASTERN	0.863	0.810	0.737	0.653	0.571	0.450	0.338
Embu	0.885	0.833	0.774	0.700	0.615	0.497	0.368
Isiolo	0.810	0.739	0.675	0.548	0.451	0.352	0.254
Kitui	0.827	0.759	0.672	0.606	0.531	0.422	0.313
Makueni	0.852	0.790	0.711	0.629	0.552	0.436	0.332
Machakos	0.856	0.805	0.728	0.649	0.578	0.462	0.361
Marsabit	0.786	0.697	0.600	0.451	0.324	0.229	0.155
Mbeere	0.873	0.821	0.747	0.678	0.592	0.459	0.329
Meru Central	0.906	0.863	0.801	0.722	0.641	0.512	0.393
Moyale	0.817	0.726	0.648	0.532	0.384	0.295	0.227
Mwingi	0.843	0.785	0.703	0.627	0.551	0.428	0.304
Meru North	0.887	0.830	0.763	0.668	0.574	0.455	0.329
Tharaka	0.859	0.796	0.720	0.637	0.538	0.395	0.295
Nithi (Meru S.)	0.915	0.868	0.794	0.704	0.629	0.516	0.370
NORTH EASTERN	0.850	0.792	0.718	0.608	0.520	0.409	0.337
Garissa	0.840	0.792	0.723	0.623	0.550	0.440	0.364
Mandera	0.858	0.789	0.713	0.594	0.499	0.388	0.304
Wajir	0.851	0.794	0.716	0.606	0.509	0.398	0.338
NYANZA	0.777	0.704	0.618	0.519	0.434	0.329	0.232
Gucha(Kisii S.)	0.849	0.761	0.663	0.579	0.483	0.392	0.282
Homa Bay	0.739	0.665	0.591	0.488	0.398	0.303	0.208
Kisii Central	0.825	0.741	0.626	0.531	0.425	0.321	0.245
Kisumu	0.746	0.687	0.617	0.527	0.442	0.331	0.233
Kuria	0.803	0.748	0.675	0.597	0.519	0.396	0.277
Migori	0.750	0.679	0.602	0.506	0.430	0.328	0.226
Nyamira (Kisii N.)	0.852	0.775	0.678	0.564	0.481	0.378	0.289
Rachuonyo	0.742	0.676	0.598	0.485	0.413	0.310	0.209

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PROVINCE/ District	Proportions with Father Alive					40-44	45-49
	15-19	20-24	25-29	30-34	35-39		
Siaya	0.731	0.654	0.554	0.453	0.372	0.266	0.166
Suba	0.743	0.664	0.600	0.502	0.430	0.313	0.236
Bondo	0.726	0.643	0.567	0.468	0.379	0.281	0.192
Nyando	0.738	0.673	0.586	0.489	0.401	0.300	0.221
RIFT VALLEY	0.862	0.803	0.727	0.641	0.550	0.438	0.328
Baringo	0.883	0.808	0.712	0.607	0.499	0.379	0.271
Bomet	0.873	0.813	0.743	0.670	0.576	0.480	0.361
Keiyo	0.892	0.829	0.750	0.673	0.571	0.453	0.359
Kajiado	0.838	0.789	0.712	0.621	0.543	0.437	0.318
Kericho	0.848	0.796	0.719	0.624	0.551	0.436	0.322
Koibatek	0.881	0.834	0.761	0.683	0.571	0.476	0.354
Laikipia	0.865	0.815	0.748	0.668	0.581	0.475	0.339
Marakwet	0.909	0.847	0.757	0.670	0.561	0.455	0.354
Nakuru	0.857	0.805	0.745	0.663	0.581	0.472	0.364
Nandi	0.875	0.818	0.736	0.656	0.562	0.443	0.335
Narok	0.843	0.776	0.690	0.600	0.517	0.401	0.301
Samburu	0.793	0.715	0.634	0.522	0.420	0.284	0.209
Trans Mara	0.847	0.785	0.707	0.635	0.546	0.430	0.333
Trans Nzoia	0.878	0.821	0.755	0.673	0.588	0.482	0.361
Turkana	0.834	0.752	0.645	0.501	0.391	0.269	0.197
Uasin Gishu	0.874	0.824	0.756	0.684	0.589	0.490	0.372
West Pokot	0.859	0.770	0.661	0.568	0.478	0.359	0.262
Buret	0.868	0.802	0.732	0.632	0.527	0.432	0.331
WESTERN	0.865	0.798	0.708	0.614	0.523	0.414	0.300
Bungoma	0.889	0.829	0.738	0.659	0.574	0.472	0.355
Busia	0.804	0.717	0.630	0.522	0.436	0.319	0.222
Mt Elgon	0.876	0.815	0.735	0.659	0.573	0.463	0.327
Kakamega	0.874	0.807	0.714	0.616	0.516	0.409	0.289
Lugari	0.878	0.820	0.748	0.652	0.564	0.477	0.367
Teso	0.836	0.765	0.687	0.602	0.522	0.379	0.266
Vihiga	0.860	0.794	0.703	0.604	0.508	0.405	0.294
Butere/Mumias	0.861	0.779	0.679	0.569	0.472	0.359	0.257

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Appendix 9 Alpha and Beta Values by Sex and District, 1999

PROVINCE/ District	Alpha Values		Beta Values		PROVINCE District	Alpha Values		Beta Values	
	M	F	M	F		M	F	M	F
KENYA	0.44638	0.55216	0.9055	0.7889	Bomet	0.75084	0.95741	0.9779	0.7051
NAIROBI	0.47402	0.64996	1.0662	0.8364	Keiyo	0.78026	0.96876	0.9869	0.7478
CENTRAL	0.69106	0.89608	1.0088	0.7348	Kajiado	0.64990	0.82538	0.9001	0.6758
Kiambu	0.48955	0.68928	1.2635	0.9968	Kericho	0.01336	0.25419	1.0540	0.7984
Kirinyaga	0.61302	0.84250	1.0694	0.6946	Koibatek	0.92879	0.79157	0.5402	0.7376
Murang'a	0.67884	0.91347	1.0154	0.8233	Laikipia	0.70611	0.87778	0.9219	0.6985
Nyandarua	0.66980	0.90111	1.0435	0.7265	Marakwet	0.75561	0.89209	0.8906	0.7277
Nyeri	0.73060	0.94445	1.1446	0.8368	Nakuru	0.30125	0.13416	1.3420	1.0480
Thika	0.45711	0.63234	1.1728	0.9495	Nandi	0.41645	0.61524	1.0220	0.7680
Maragua	0.69864	0.89435	1.0494	0.7799	Narok	0.62568	0.82008	0.9079	0.6397
COAST	0.36343	0.52907	0.8684	0.6595	Samburu	0.46522	0.62100	1.0160	0.8320
Kilifi	0.33432	0.48470	0.9361	0.6843	Trans Mara	0.20921	0.10541	0.8365	0.9085
Kwale	0.35076	0.43170	0.8498	0.7253	Trans Nzoia	0.10698	0.28124	0.9680	0.7790
Lamu	0.47511	0.54851	0.9479	0.8199	Turkana	0.35021	0.47445	0.9845	0.8456
Mombasa	0.41279	0.48548	0.9999	0.9409	Uasin Gishu	0.57653	0.74294	0.9676	0.7561
Taita Taveta	0.46470	0.63843	0.9734	0.6971	West Pokot	0.06846	0.22564	0.8610	0.6920
Tana River	0.37265	0.44878	0.8270	0.7102	Buret	0.10129	0.2710	1.1712	0.9715
Malindi	0.38460	0.50586	0.9458	0.7558	WESTERN	0.29238	0.45327	0.8523	0.6513
EASTERN	0.59260	0.79886	1.0263	0.7311	Bungoma	0.40821	0.57384	0.7560	0.5440
Embu	0.69109	0.95314	0.9709	0.6002	Busia	0.03595	0.21891	0.9889	0.7621
Isiolo	0.43294	0.61352	0.8523	0.6713	Mt. Elgon	0.50310	0.70556	0.8445	0.5692
Kitui	0.41442	0.62464	0.9577	0.6775	Kakamega	0.29161	0.45375	0.7954	0.5951
Makueni	0.46836	0.66225	1.0659	0.8161	Lugari	0.53514	0.70245	0.8584	0.6446
Machakos	0.51967	0.73752	1.1019	0.7981	Teso	0.27772	0.39389	0.9499	0.8274
Marsabit	0.58397	0.76934	1.0185	0.7798	Vihiga	0.39860	0.54689	0.8586	0.6733
Mbeere	0.64204	0.84137	0.9909	0.7208	Butere/	0.15733	0.32449	0.8396	0.6187
Meru Central	0.70358	0.85188	0.8905	0.6912	Mumias				
Moyale	0.46491	0.52584	0.8000	0.7684					
Mwingi	0.46243	0.67628	0.7969	0.5047					
Meru North	0.62754	0.78477	1.0502	0.8649					
Tharaka	0.27705	0.46170	0.9384	0.6437					
Nithi (Meru S.)	0.67321	0.79687	0.8303	0.6041					
N/EASTERN	0.62975	0.66831	0.6786	0.7474					
Garissa	0.58183	0.58692	0.7403	0.7735					
Mandera	0.61149	0.63281	0.7001	0.6870					
Wajir	0.59900	0.67326	0.6720	0.7019					
NYANZA	0.06062	0.26201	1.0430	0.7802					
Gucha (Kisii S.)	0.37474	0.57204	0.8701	0.5538					
Homa Bay	-0.12331	0.05796	1.0510	0.8285					
Kisii Central	0.34248	0.59298	1.0294	0.6891					
Kisumu	-0.06585	0.13594	1.1125	0.8540					
Kuria	0.31319	0.48024	0.9774	0.7687					
Migori	-0.06297	0.11577	1.0128	0.7920					
Nyamira (Kisii N.)	0.70581	0.94385	1.2012	0.8719					
Rachuonyo	-0.01447	0.17364	1.1201	0.8833					
Siaya	-0.09313	0.12314	1.0886	0.8078					
Suba	-0.10427	0.09378	1.0455	0.7963					
Bondo	-0.05036	0.15891	1.1443	0.8713					
Nyando	-0.07024	0.13211	1.1527	0.8952					
RIFT VALLEY	0.61095	0.79535	0.9114	0.6696					
Baringo	0.56230	0.72525	0.8488	0.6346					

Appendix 10 Life Tables by Sex and District, 1989-99

KENYA								
AGE	MALES				FEMALES			
	l(x)	nqx	e(x)	m(x)	l(x)	nqx	e(x)	m(x)
0	1.0000	0.0793	52.9	0.0843	1.0000	0.0753	60.4	0.0798
1	0.9207	0.0431	56.4	0.0110	0.9247	0.0408	64.3	0.0104
5	0.8810	0.0240	54.8	0.0048	0.8870	0.0160	63.0	0.0032
10	0.8599	0.0097	51.1	0.0019	0.8728	0.0062	59.0	0.0012
15	0.8516	0.0164	46.6	0.0033	0.8674	0.0112	54.3	0.0022
20	0.8376	0.0230	42.3	0.0047	0.8577	0.0216	49.9	0.0044
25	0.8183	0.0320	38.3	0.0065	0.8392	0.0291	45.9	0.0059
30	0.7921	0.0456	34.5	0.0093	0.8148	0.0320	42.2	0.0065
35	0.7560	0.0557	31.0	0.0115	0.7887	0.0335	38.6	0.0068
40	0.7139	0.0630	27.7	0.0130	0.7623	0.0344	34.8	0.0070
45	0.6689	0.0713	24.4	0.0148	0.7361	0.0367	30.9	0.0075
50	0.6212	0.0842	21.0	0.0176	0.7091	0.0422	27.0	0.0086
55	0.5689	0.1058	17.7	0.0223	0.6792	0.0532	23.1	0.0109
60	0.5087	0.1433	14.5	0.0309	0.6431	0.0739	19.3	0 0153
65	0.4358	0.2061	11.6	0.0459	0.5956	0.1098	15.6	0.0232
70	0.3460	0.3026	8.9	0.0713	0.5302	0.1705	12.2	0.0373
75	0.2413	0.4393	6.7	0.1126	0.4398	0.2713	9.2	0.0628
80	0.1353	0.6046	5.0	0.2005	0.3205	0.4237	6.7	0.1487
85	0.0535	0.7682	3.8		0.1847	0.6151	4.8	
90	0.0124	0.8871	3.1		0.0711	0.7876	3.6	
95	0.0014	1.0000	2.5		0.0151	1.0000	2.5	

NAIROBI								
AGE	MALES				FEMALES			
	l(x)	nqx	e(x)	m(x)	l(x)	nqx	e(x)	m(x)
0	1.0000	0.0473	54.1	0.0490	1.0000	0.0520	59.8	0.0541
1	0.9527	0.0501	55.7	0.0129	0.9480	0.0401	62.1	0.0102
5	0.9050	0.0215	54.6	0.0043	0.9100	0.0156	60.6	0.0031
10	0.8856	0.0088	50.7	0.0018	0.8958	0.0062	56.5	0.0012
15	0.8778	0.0151	46.2	0.0031	0.8903	0.0113	51.9	0.0023
20	0.8645	0.0215	41.8	0.0043	0.8803	0.0221	47.4	0.0045
25	0.8459	0.0303	37.7	0.0062	0.8608	0.0308	43.5	0.0063
30	0.8203	0.0443	33.8	0.0091	0.8343	0.0352	39.8	0.0072
35	0.7840	0.0553	30.2	0.0114	0.8049	0.0376	36.1	0.0077
40	0.7406	0.0639	26.9	0.0132	0.7747	0.0396	32.4	0.0081
45	0.6933	0.0739	23.5	0.0154	0.7440	0.0432	28.7	0.0088
50	0.6420	0.0888	20.2	0.0186	0.7118	0.0505	24.9	0.0104
55	0.5850	0.1134	16.9	0.0241	0.6758	0.0650	21.0	0.0134
60	0.5186	0.1559	13.8	0.0338	0.6319	0.0920	17.3	0.0193
65	0.4378	0.2264	10.9	0.0510	0.5737	0.1389	13.8	0.0299
70	0.3387	0.3337	8.3	0.0801	0.4940	0.2172	10.7	0.0487
75	0.2257	0.4806	6.2	0.1265	0.3867	0.3421	7.9	0.0826
80	0.1172	0.6482	4.6	0.2159	0.2544	0.5142	5.8	0.1737
85	0.0412	0.8048	3.6		0.1236	0.7031	4.2	
90	0.0081	0.9142	2.9		0.0367	0.8508	3.2	
95	0.0007	1.0000	2.5		0.0055	1.0000	2.5	

CENTRAL								
AGE	MALES				FEMALES			
	l(x)	nqx	e(x)	m(x)	l(x)	nqx	e(x)	m(x)
0	1.0000	0.0347	60.4	0.0356	1.0000	0.0391	68.0	0.0403
1	0.9653	0.0345	61.5	0.0088	0.9609	0.0259	69.8	0.0066
5	0.9320	0.0145	59.6	0.0029	0.9360	0.0097	67.6	0.0019
10	0.9184	0.0059	55.5	0.0012	0.9269	0.0038	63.2	0.0008
15	0.9130	0.0102	50.8	0.0021	0.9234	0.0069	58.5	0.0014
20	0.9037	0.0145	46.3	0.0029	0.9170	0.0134	53.8	0.0027
25	0.8906	0.0205	42.0	0.0041	0.9047	0.0185	49.5	0.0037
30	0.8723	0.0300	37.8	0.0061	0.8880	0.0209	45.4	0.0042
35	0.8461	0.0377	33.9	0.0077	0.8694	0.0222	41.4	0.0045
40	0.8142	0.0439	30.1	0.0090	0.8500	0.0233	37.2	0.0047
45	0.7784	0.0514	26.4	0.0106	0.8302	0.0254	33.1	0.0051
50	0.7384	0.0627	22.7	0.0129	0.8091	0.0297	28.9	0.0060
55	0.6921	0.0819	19.0	0.0171	0.7851	0.0385	24.7	0.0078
60	0.6355	0.1159	15.5	0.0246	0.7549	0.0552	20.6	0.0113
65	0.5618	0.1757	12.2	0.0385	0.7132	0.0854	16.6	0.0179
70	0.4631	0.2745	9.2	0.0636	0.6523	0.1401	12.9	0.0301
75	0.3360	0.4230	6.8	0.1073	0.5609	0.2390	9.6	0.0543
80	0.1938	0.6057	4.9	0.2021	0.4269	0.4021	6.9	0.1457
85	0.0764	0.7802	3.7		0.2553	0.6164	4.8	
90	0.0168	0.9013	3.0		0.0979	0.8013	3.5	
95	0.0017	1.0000	2.5		0.0195	1.0000	2.5	

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KIAMBU								
AGE	MALES				FEMALES			
	l(x)	nqx	e(x)	m(x)	l(x)	nqx	e(x)	m(x)
0	1.0000	0.0318	53.4	0.0326	1.0000	0.0359	59.2	0.0369
1	0.9682	0.0436	54.2	0.0111	0.9641	0.0353	60.4	0.0090
5	0.9260	0.0202	52.5	0.0041	0.9300	0.0147	58.5	0.0030
10	0.9073	0.0085	48.6	0.0017	0.9164	0.0059	54.4	0.0012
15	0.8996	0.0149	44.0	0.0030	0.9109	0.0110	49.7	0.0022
20	0.8862	0.0217	39.6	0.0044	0.9009	0.0222	45.2	0.0045
25	0.8669	0.0315	35.4	0.0064	0.8809	0.0321	41.2	0.0065
30	0.8396	0.0477	31.5	0.0098	0.8527	0.0379	37.5	0.0077
35	0.7995	0.0619	27.9	0.0128	0.8203	0.0418	33.8	0.0085
40	0.7500	0.0738	24.6	0.0153	0.7860	0.0453	30.2	0.0093
45	0.6946	0.0878	21.4	0.0184	0.7504	0.0507	26.5	0.0104
50	0.6336	0.1079	18.2	0.0228	0.7124	0.0605	22.8	0.0125
55	0.5653	0.1402	15.1	0.0302	0.6693	0.0794	19.1	0.0165
60	0.4860	0.1943	12.1	0.0430	0.6161	0.1143	15.5	0.0242
65	0.3916	0.2812	9.5	0.0654	0.5457	0.1747	12.2	0.0383
70	0.2815	0.4058	7.2	0.1018	0.4504	0.2732	9.3	0.0633
75	0.1672	0.5617	5.4	0.1562	0.3273	0.4206	6.8	0.1065
80	0.0733	0.7220	4.1	0.2441	0.1897	0.6020	5.0	0.2008
85	0.0204	0.8589	3.2		0.0755	0.7765	3.7	
90	0.0029	0.9459	2.8		0.0169	0.8987	3.0	
95	0.0002	1.0000	2.5		0.0017	1.0000	2.5	

KIRINYAGA								
AGE	MALES				FEMALES			
	l(x)	nqx	e(x)	m(x)	l(x)	nqx	e(x)	m(x)
0	1.0000	0.0398	58.2	0.0410	1.0000	0.0467	67.3	0.0484
1	0.9602	0.0398	59.7	0.0102	0.9533	0.0286	69.5	0.0073
5	0.9220	0.0168	58.0	0.0034	0.9260	0.0105	67.5	0.0021
10	0.9065	0.0068	54.0	0.0014	0.9163	0.0041	63.2	0.0008
15	0.9004	0.0118	49.3	0.0024	0.9125	0.0074	58.5	0.0015
20	0.8898	0.0167	44.9	0.0034	0.9057	0.0144	53.9	0.0029
25	0.8749	0.0235	40.6	0.0048	0.8927	0.0196	49.6	0.0040
30	0.8544	0.0344	36.5	0.0070	0.8752	0.0219	45.6	0.0044
35	0.8250	0.0430	32.8	0.0088	0.8560	0.0230	41.5	0.0047
40	0.7895	0.0498	29.1	0.0102	0.8363	0.0239	37.5	0.0048
45	0.7502	0.0580	25.5	0.0119	0.8163	0.0259	33.3	0.0052
50	0.7067	0.0703	21.9	0.0146	0.7952	0.0300	29.1	0.0061
55	0.6571	0.0909	18.4	0.0191	0.7713	0.0385	25.0	0.0079
60	0.5973	0.1273	15.0	0.0272	0.7416	0.0547	20.9	0.0112
65	0.5212	0.1901	11.8	0.0420	0.7010	0.0837	16.9	0.0175
70	0.4221	0.2911	9.0	0.0681	0.6423	0.1354	13.2	0.0290
75	0.2993	0.4385	6.6	0.1123	0.5554	0.2283	9.9	0.0515
80	0.1680	0.6157	4.9	0.2051	0.4286	0.3823	7.1	0.1403
85	0.0646	0.7846	3.7		0.2648	0.5910	5.0	
90	0.0139	0.9031	3.0		0.1083	0.7804	3.6	
95	0.0013	1.0000	2.5		0.0238	1.0000	2.5	

MURANG'A								
AGE	MALES				FEMALES			
	l(x)	nqx	e(x)	m(x)	l(x)	nqx	e(x)	m(x)
0	1.0000	0.0279	59.0	0.0285	1.0000	0.0321	67.1	0.0329
1	0.9721	0.0330	59.7	0.0084	0.9679	0.0247	68.3	0.0062
5	0.9400	0.0147	57.6	0.0030	0.9440	0.0096	66.0	0.0019
10	0.9262	0.0061	53.5	0.0012	0.9350	0.0038	61.6	0.0008
15	0.9206	0.0106	48.8	0.0021	0.9314	0.0070	56.9	0.0014
20	0.9108	0.0153	44.3	0.0031	0.9249	0.0137	52.2	0.0028
25	0.8969	0.0220	39.9	0.0044	0.9122	0.0193	47.9	0.0039
30	0.8772	0.0330	35.7	0.0067	0.8946	0.0223	43.8	0.0045
35	0.8483	0.0424	31.9	0.0087	0.8746	0.0241	39.8	0.0049
40	0.8124	0.0504	28.2	0.0103	0.8536	0.0257	35.7	0.0052
45	0.7714	0.0602	24.5	0.0124	0.8317	0.0284	31.6	0.0058
50	0.7250	0.0746	21.0	0.0155	0.8081	0.0337	27.4	0.0069
55	0.6709	0.0985	17.4	0.0207	0.7808	0.0442	23.3	0.0090
60	0.6048	0.1406	14.1	0.0303	0.7463	0.0642	19.3	0.0133
65	0.5197	0.2131	11.0	0.0477	0.6984	0.1008	15.4	0.0212
70	0.4090	0.3278	8.3	0.0784	0.6280	0.1667	11.8	0.0364
75	0.2749	0.4880	6.1	0.1291	0.5233	0.2836	8.7	0.0661
80	0.1408	0.6669	4.5	0.2233	0.3749	0.4642	6.2	0.1618
85	0.0469	0.8245	3.4		0.2009	0.6773	4.4	
90	0.0082	0.9273	2.9		0.0648	0.8424	3.3	
95	0.0006	1.0000	2.5		0.0102	1.0000	2.5	

Volume V: Analytical Report on Mortality

NYANDARUA								
AGE	MALES				FEMALES			
	l(x)	nqx	e(x)	m(x)	l(x)	nqx	e(x)	m(x)
0	1.0000	0.0339	59.5	0.0347	1.0000	0.0394	67.9	0.0406
1	0.9661	0.0353	60.6	0.0090	0.9606	0.0256	69.6	0.0065
5	0.9320	0.0151	58.7	0.0030	0.9360	0.0096	67.4	0.0019
10	0.9179	0.0062	54.6	0.0012	0.9270	0.0038	63.1	0.0008
15	0.9123	0.0107	49.9	0.0021	0.9236	0.0068	58.3	0.0014
20	0.9025	0.0152	45.4	0.0031	0.9173	0.0132	53.7	0.0027
25	0.8888	0.0216	41.1	0.0044	0.9051	0.0182	49.4	0.0037
30	0.8696	0.0318	36.9	0.0065	0.8886	0.0206	45.2	0.0042
35	0.8420	0.0401	33.1	0.0082	0.8704	0.0218	41.1	0.0044
40	0.8082	0.0469	29.4	0.0096	0.8514	0.0228	37.0	0.0046
45	0.7703	0.0551	25.7	0.0113	0.8320	0.0248	32.8	0.0050
50	0.7278	0.0674	22.0	0.0140	0.8113	0.0291	28.6	0.0059
55	0.6787	0.0881	18.4	0.0184	0.7877	0.0376	24.3	0.0077
50	0.6189	0.1248	15.0	0.0266	0.7581	0.0538	20.2	0.0111
65	0.5417	0.1885	11.8	0.0416	0.7173	0.0833	16.2	0.0174
70	0.4395	0.2921	8.9	0.0684	0.6575	0.1366	13.1	0.0293
75	0.3111	0.4439	6.6	0.1141	0.5677	0.2335	9.7	0.0529
80	0.1730	0.6248	4.8	0.2084	0.4351	0.3947	6.9	0.1439
85	0.0649	0.7937	3.6		0.2634	0.6093	4.9	
90	0.0134	0.9092	3.0		0.1029	0.7966	3.5	
95	0.0012	1.0000	2.5		0.0209	1.0000	2.5	

NYERI								
AGE	MALES				FEMALES			
	l(x)	nqx	e(x)	m(x)	l(x)	nqx	e(x)	m(x)
0	1.0000	0.0249	60.2	0.0254	1.0000	0.0295	67.7	0.0302
1	0.9751	0.0298	60.7	0.0076	0.9705	0.0232	68.7	0.0059
5	0.9460	0.0133	58.5	0.0027	0.9480	0.0091	66.3	0.0018
10	0.9334	0.0055	54.3	0.0011	0.9394	0.0036	61.9	0.0007
15	0.9283	0.0096	49.6	0.0019	0.9360	0.0066	57.1	0.0013
20	0.9193	0.0139	45.0	0.0028	0.9299	0.0131	52.5	0.0026
25	0.9065	0.0201	40.6	0.0041	0.9177	0.0185	48.2	0.0037
30	0.8883	0.0303	36.4	0.0061	0.9007	0.0214	44.0	0.0043
35	0.8614	0.0391	32.5	0.0080	0.8815	0.0232	39.9	0.0047
40	0.8277	0.0468	28.7	0.0096	0.8610	0.0248	35.8	0.0050
45	0.7890	0.0561	25.0	0.0116	0.8396	0.0275	31.7	0.0056
50	0.7447	0.0700	21.3	0.0145	0.8165	0.0328	27.5	0.0067
55	0.6926	0.0932	17.7	0.0196	0.7897	0.0432	23.3	0.0088
60	0.6280	0.1343	14.3	0.0288	0.7556	0.0631	19.3	0.0130
65	0.5436	0.2058	11.1	0.0459	0.7080	0.0996	15.4	0.0210
70	0.4317	0.3209	8.3	0.0765	0.6375	0.1659	11.8	0.0362
75	0.2932	0.4838	6.1	0.1276	0.5317	0.2844	8.7	0.0663
80	0.1514	0.6664	4.5	0.2232	0.3805	0.4681	6.1	0.1631
85	0.0505	0.8257	3.4		0.2024	0.6832	4.3	
90	0.0088	0.9284	2.9		0.0641	0.8472	3.3	
95	0.0006	1.0000	2.5		0.0098	1.0000	2.5	

THIKA								
AGE	MALES				FEMALES			
	l(x)	nqx	e(x)	m(x)	l(x)	nqx	e(x)	m(x)
0	1.0000	0.0401	53.0	0.0414	1.0000	0.0437	58.1	0.0452
1	0.9599	0.0488	54.2	0.0125	0.9563	0.0400	59.8	0.0102
5	0.9130	0.0218	52.9	0.0044	0.9180	0.0163	58.2	0.0033
10	0.8931	0.0090	49.0	0.0018	0.9031	0.0066	54.1	0.0013
15	0.8850	0.0158	44.5	0.0032	0.8972	0.0121	49.4	0.0024
20	0.8710	0.0227	40.1	0.0046	0.8863	0.0241	45.0	0.0049
25	0.8513	0.0324	36.0	0.0066	0.8650	0.0343	41.1	0.0070
30	0.8237	0.0482	32.1	0.0099	0.8353	0.0400	37.4	0.0082
35	0.7840	0.0612	28.6	0.0126	0.8019	0.0436	33.9	0.0089
40	0.7360	0.0718	25.3	0.0149	0.7669	0.0467	30.3	0.0096
45	0.6832	0.0841	22.1	0.0176	0.7311	0.0517	26.7	0.0106
50	0.6257	0.1019	18.9	0.0215	0.6933	0.0611	23.0	0.0126
55	0.5620	0.1309	15.7	0.0280	0.6509	0.0794	19.3	0.0165
60	0.4884	0.1801	12.7	0.0396	0.5992	0.1130	15.8	0.0240
65	0.4004	0.2598	10.0	0.0597	0.5315	0.1708	12.5	0.0373
70	0.2964	0.3767	7.6	0.0928	0.4407	0.2644	9.5	0.0609
75	0.1847	0.5285	5.7	0.1436	0.3242	0.4052	7.1	0.1016
80	0.0871	0.6915	4.3	0.2319	0.1928	0.5822	5.2	0.1942
85	0.0269	0.8366	3.4		0.0806	0.7586	3.8	
90	0.0044	0.9332	2.8		0.0194	0.8868	3.1	
95	0.0003	1.0000	2.5		0.0022	1.0000	2.5	

Kenya 1999 Population and Housing Census

MARAGUA								
AGE	MALES				FEMALES			
	l(x)	nqx	e(x)	m(x)	l(x)	nqx	e(x)	m(x)
0	1.0000	0.0317	60.2	0.0324	1.0000	0.0361	67.3	0.0371
1	0.9683	0.0334	61.2	0.0085	0.9639	0.0258	68.8	0.0065
5	0.9360	0.0143	59.2	0.0029	0.9390	0.0098	66.6	0.0020
10	0.9226	0.0058	55.0	0.0012	0.9298	0.0039	62.2	0.0008
15	0.9172	0.0101	50.3	0.0020	0.9262	0.0071	57.4	0.0014
20	0.9079	0.0145	45.8	0.0029	0.9196	0.0139	52.8	0.0028
25	0.8948	0.0205	41.5	0.0042	0.9068	0.0193	48.5	0.0039
30	0.8764	0.0304	37.3	0.0062	0.8893	0.0221	44.4	0.0045
35	0.8498	0.0385	33.4	0.0078	0.8697	0.0236	40.4	0.0048
40	0.8171	0.0451	29.6	0.0092	0.8492	0.0250	36.3	0.0051
45	0.7802	0.0532	25.9	0.0109	0.8280	0.0274	32.2	0.0056
50	0.7387	0.0653	22.2	0.0135	0.8053	0.0323	28.0	0.0066
55	0.6904	0.0857	18.6	0.0179	0.7793	0.0420	23.9	0.0086
60	0.6313	0.1219	15.1	0.0260	0.7466	0.0606	19.8	0.0125
65	0.5543	0.1853	11.8	0.0409	0.7013	0.0944	15.9	0.0198
70	0.4516	0.2891	8.9	0.0676	0.6351	0.1552	12.3	0.0336
75	0.3210	0.4423	6.6	0.1136	0.5366	0.2637	9.1	0.0608
80	0.1790	0.6253	4.8	0.2087	0.3951	0.4363	6.5	0.1543
85	0.0671	0.7952	3.6		0.2227	0.6499	4.6	
90	0.0137	0.9104	2.9		0.0780	0.8238	3.4	
95	0.0012	1.0000	2.5		0.0137	1.0000	2.5	

COAST								
AGE	MALES				FEMALES			
	l(x)	nqx	e(x)	m(x)	l(x)	nqx	e(x)	m(x)
0	1.0000	0.0831	52.0	0.0886	1.0000	0.0893	58.3	0.0957
1	0.9169	0.0653	55.7	0.0169	0.9107	0.0502	63.0	0.0129
5	0.8570	0.0257	55.4	0.0052	0.8650	0.0180	62.2	0.0036
10	0.8350	0.0102	51.8	0.0021	0.8494	0.0070	58.3	0.0014
15	0.8265	0.0173	47.4	0.0035	0.8435	0.0125	53.7	0.0025
20	0.8122	0.0239	43.1	0.0048	0.8329	0.0238	49.3	0.0048
25	0.7928	0.0325	39.1	0.0066	0.8130	0.0319	45.5	0.0065
30	0.7670	0.0457	35.4	0.0094	0.7871	0.0349	41.9	0.0071
35	0.7319	0.0547	31.9	0.0112	0.7597	0.0359	38.3	0.0073
40	0.6919	0.0606	28.6	0.0125	0.7324	0.0365	34.7	0.0074
45	0.6500	0.0677	25.3	0.0140	0.7056	0.0387	30.9	0.0079
50	0.6060	0.0786	22.0	0.0164	0.6783	0.0440	27.0	0.0090
55	0.5583	0.0975	18.7	0.0205	0.6485	0.0550	23.1	0.0113
60	0.5039	0.1306	15.4	0.0279	0.6128	0.0756	19.4	0.0157
65	0.4381	0.1860	12.3	0.0410	0.5665	0.1110	15.7	0.0235
70	0.3566	0.2727	9.6	0.0631	0.5036	0.1697	12.4	0.0371
75	0.2593	0.3992	7.2	0.0998	0.4181	0.2660	9.4	0.0614
80	0.1558	0.5595	5.4	0.1858	0.3069	0.4111	6.9	0.1448
85	0.0686	0.7291	4.0		0.1807	0.5968	5.0	
90	0.0186	0.8634	3.2		0.0729	0.7693	3.7	
95	0.0025	1.0000	2.5		0.0168	1.0000	2.5	

KILIFI								
AGE	MALES				FEMALES			
	l(x)	nqx	e(x)	m(x)	l(x)	nqx	e(x)	m(x)
0	1.0000	0.0778	50.7	0.0826	1.0000	0.0927	56.5	0.0996
1	0.9222	0.0675	53.9	0.0175	0.9073	0.0543	61.2	0.0140
5	0.8600	0.0272	53.7	0.0055	0.8580	0.0197	60.6	0.0040
10	0.8366	0.0109	50.1	0.0022	0.8411	0.0077	56.8	0.0015
15	0.8274	0.0186	45.7	0.0038	0.8347	0.0137	52.2	0.0028
20	0.8121	0.0258	41.5	0.0052	0.8232	0.0262	47.9	0.0053
25	0.7911	0.0355	37.5	0.0072	0.8017	0.0351	44.1	0.0071
30	0.7630	0.0502	33.8	0.0103	0.7735	0.0385	40.7	0.0078
35	0.7247	0.0606	30.5	0.0125	0.7437	0.0397	37.2	0.0081
40	0.6808	0.0677	27.3	0.014	0.7143	0.0404	33.6	0.0083
45	0.6346	0.0760	24.1	0.0158	0.6854	0.0428	29.9	0.0088
50	0.5864	0.0887	20.8	0.0186	0.6560	0.0487	26.2	0.0100
55	0.5344	0.1103	17.6	0.0233	0.6241	0.0609	22.4	0.0126
60	0.4755	0.1475	14.5	0.0318	0.5861	0.0835	18.7	0.0174
65	0.4053	0.2091	11.6	0.0467	0.5372	0.1220	15.1	0.0260
70	0.3206	0.3032	9.0	0.0715	0.4716	0.1852	11.9	0.0408
75	0.2234	0.4357	6.8	0.1114	0.3843	0.2867	9.0	0.0669
80	0.1260	0.5963	5.1	0.1976	0.2741	0.4349	6.6	0.1507
85	0.0509	0.7593	3.8		0.1549	0.6184	4.8	
90	0.0122	0.8838	3.1		0.0591	0.7844	3.6	
95	0.0014	1.0000	2.5		0.0127	1.0000	2.5	

Volume V: Analytical Report on Mortality

AGE	KWALE							
	MALES				FEMALES			
	l(x)	nqx	e(x)	m(x)	l(x)	nqx	e(x)	m(x)
0	1.0000	0.0879	51.7	0.0941	1.0000	0.0950	54.2	0.1023
1	0.9121	0.0670	55.7	0.0174	0.9050	0.0596	58.9	0.0154
5	0.8510	0.0261	55.5	0.0053	0.8510	0.0219	58.5	0.0044
10	0.8288	0.0104	52.0	0.0021	0.8323	0.0086	54.8	0.0017
15	0.8202	0.0175	47.5	0.0035	0.8252	0.0154	50.2	0.0031
20	0.8058	0.0241	43.3	0.0049	0.8125	0.0295	46.0	0.0060
25	0.7864	0.0328	39.3	0.0067	0.7886	0.0397	42.3	0.0081
30	0.7606	0.0458	35.5	0.0094	0.7573	0.0437	38.9	0.0089
35	0.7257	0.0546	32.1	0.0112	0.7242	0.0452	35.6	0.0092
40	0.6861	0.0603	28.8	0.0124	0.6915	0.0462	32.2	0.0095
45	0.6447	0.0671	25.5	0.0139	0.6595	0.0490	28.6	0.0100
50	0.6014	0.0777	22.2	0.0162	0.6272	0.0557	25.0	0.0115
55	0.5547	0.0962	18.8	0.0202	0.5922	0.0697	21.3	0.0144
60	0.5013	0.1284	15.6	0.0274	0.5510	0.0953	17.7	0.0200
65	0.4370	0.1825	12.5	0.0402	0.4984	0.1387	14.3	0.0298
70	0.3572	0.2672	9.7	0.0617	0.4293	0.2083	11.2	0.0465
75	0.2618	0.3914	7.3	0.0973	0.3399	0.3170	8.5	0.0754
80	0.1593	0.5503	5.5	0.1829	0.2321	0.4693	6.3	0.1596
85	0.0716	0.7206	4.1		0.1232	0.6492	4.6	
90	0.0200	0.8572	3.2		0.0432	0.8064	3.5	
95	0.0029	1.0000	2.5		0.0084	1.0000	2.5	

AGE	LAMU							
	MALES				FEMALES			
	l(x)	nqx	e(x)	m(x)	l(x)	nqx	e(x)	m(x)
0	1.0000	0.0586	54.9	0.0612	1.0000	0.0649	57.0	0.0682
1	0.9414	0.0525	57.3	0.0135	0.9351	0.0483	59.9	0.0124
5	0.8920	0.0214	56.4	0.0043	0.8900	0.0186	58.9	0.0037
10	0.8729	0.0086	52.5	0.0017	0.8735	0.0073	54.9	0.0015
15	0.8654	0.0147	48.0	0.0030	0.8671	0.0133	50.3	0.0027
20	0.8526	0.0206	43.6	0.0042	0.8555	0.0260	46.0	0.0053
25	0.8350	0.0286	39.5	0.0058	0.8333	0.0359	42.1	0.0073
30	0.8111	0.0410	35.6	0.0084	0.8033	0.0406	38.6	0.0083
35	0.7779	0.0502	32.0	0.0103	0.7707	0.0430	35.1	0.0088
40	0.7388	0.0568	28.6	0.0117	0.7375	0.0449	31.6	0.0092
45	0.6968	0.0647	25.1	0.0134	0.7044	0.0486	28.0	0.0100
50	0.6517	0.0767	21.7	0.0160	0.6702	0.0563	24.3	0.0116
55	0.6017	0.0971	18.3	0.0204	0.6325	0.0716	20.6	0.0149
60	0.5433	0.1326	15.0	0.0284	0.5872	0.1000	17.0	0.0211
65	0.4713	0.1927	11.9	0.0426	0.5285	0.1485	13.6	0.0321
70	0.3805	0.2873	9.2	0.0671	0.4500	0.2274	10.5	0.0513
75	0.2712	0.4244	6.9	0.1077	0.3477	0.3501	7.9	0.0849
80	0.1561	0.5926	5.1	0.1969	0.2259	0.5161	5.8	0.1736
85	0.0636	0.7612	3.8		0.1093	0.6990	4.2	
90	0.0152	0.8866	3.1		0.0329	0.8456	3.3	
95	0.0017	1.0000	2.5		0.0051	1.0000	2.5	

AGE	MOMBASA							
	MALES				FEMALES			
	l(x)	nqx	e(x)	m(x)	l(x)	nqx	e(x)	m(x)
0	1.0000	0.0599	52.7	0.0627	1.0000	0.0587	53.9	0.0614
1	0.9401	0.0575	55.0	0.0148	0.9413	0.0523	56.3	0.0135
5	0.8860	0.0239	54.3	0.0048	0.8920	0.0211	55.3	0.0043
10	0.8648	0.0097	50.6	0.0019	0.8732	0.0085	51.4	0.0017
15	0.8564	0.0166	46.0	0.0033	0.8658	0.0155	46.8	0.0031
20	0.8422	0.0233	41.8	0.0047	0.8523	0.0308	42.5	0.0062
25	0.8226	0.0325	37.7	0.0066	0.8261	0.0433	38.8	0.0089
30	0.7958	0.0467	33.9	0.0096	0.7903	0.0499	35.4	0.0102
35	0.7586	0.0574	30.4	0.0118	0.7509	0.0538	32.2	0.0110
40	0.7151	0.0652	27.1	0.0135	0.7105	0.0568	28.9	0.0117
45	0.6685	0.0744	23.8	0.0154	0.6701	0.0621	25.5	0.0128
50	0.6188	0.0881	20.6	0.0184	0.6285	0.0724	22.0	0.0150
55	0.5643	0.1110	17.3	0.0235	0.5830	0.0925	18.5	0.0194
60	0.5016	0.1507	14.2	0.0326	0.5291	0.1290	15.1	0.0276
65	0.4260	0.2165	11.2	0.0486	0.4608	0.1900	12.0	0.0420
70	0.3338	0.3170	8.6	0.0754	0.3733	0.2848	9.2	0.0664
75	0.2280	0.4571	6.5	0.1185	0.2669	0.4219	6.9	0.1069
80	0.1238	0.6220	4.8	0.2065	0.1543	0.5900	5.1	0.1960
85	0.0468	0.7827	3.7		0.0633	0.7589	3.8	
90	0.0102	0.8999	3.0		0.0153	0.8850	3.1	
95	0.0010	1.0000	2.5		0.0018	1.0000	2.5	

Kenya 1999 Population and Housing Census

TAITA TAVETA								
AGE	MALES				FEMALES			
	l(x)	nqx	e(x)	m(x)	l(x)	nqx	e(x)	m(x)
0	1.0000	0.0586	54.4	0.0596	1.0000	0.0683	61.3	0.0720
1	0.9414	0.0525	56.7	0.0136	0.9317	0.0415	64.8	0.0106
5	0.8920	0.0214	55.7	0.0044	0.8930	0.0152	63.5	0.0031
10	0.8729	0.0086	51.9	0.0018	0.8794	0.0059	59.4	0.0012
15	0.8654	0.0147	47.4	0.0030	0.8742	0.0107	54.8	0.0021
20	0.8526	0.0206	43.1	0.0043	0.8649	0.0205	50.3	0.0041
25	0.8350	0.0286	38.9	0.0060	0.8471	0.0278	46.3	0.0056
30	0.8111	0.0410	35.0	0.0087	0.8235	0.0308	42.6	0.0063
35	0.7779	0.0502	31.5	0.0107	0.7982	0.0321	38.9	0.0065
40	0.7388	0.0568	28.1	0.0122	0.7725	0.0331	35.1	0.0067
45	0.6968	0.0647	24.7	0.0140	0.7470	0.0354	31.2	0.0072
50	0.6517	0.0767	21.3	0.0167	0.7205	0.0407	27.2	0.0083
55	0.6017	0.0971	17.9	0.0214	0.6912	0.0515	23.3	0.0106
60	0.5433	0.1326	14.7	0.0298	0.6556	0.0718	19.4	0.0149
65	0.4713	0.1927	11.6	0.0448	0.6085	0.1072	15.7	0.0227
70	0.3805	0.2873	8.9	0.0703	0.5433	0.1672	12.3	0.0365
75	0.2712	0.4244	6.7	0.1122	0.4524	0.2679	9.3	0.0619
80	0.1561	0.5926	5.0	0.2013	0.3312	0.4213	6.7	0.1483
85	0.0636	0.7612	3.8		0.1917	0.6151	4.8	
90	0.0152	0.8866	3.0		0.0738	0.7880	3.6	
95	0.0017	1.0000	2.5		0.0156	1.0000	2.5	

TANA RIVER								
AGE	MALES				FEMALES			
	l(x)	nqx	e(x)	m(x)	l(x)	nqx	e(x)	m(x)
0	1.0000	0.0879	52.6	0.0941	1.0000	0.0946	55.0	0.1018
1	0.9121	0.0648	56.6	0.0168	0.9054	0.0579	59.7	0.0149
5	0.8530	0.0250	56.4	0.0051	0.8530	0.0212	59.3	0.0043
10	0.8316	0.0099	52.8	0.0020	0.8349	0.0083	55.5	0.0017
15	0.8234	0.0167	48.3	0.0034	0.8280	0.0148	50.9	0.0030
20	0.8096	0.0230	44.1	0.0047	0.8158	0.0283	46.6	0.0057
25	0.7910	0.0312	40.0	0.0063	0.7927	0.0381	42.9	0.0078
30	0.7663	0.0435	36.3	0.0089	0.7625	0.0419	39.5	0.0086
35	0.7330	0.0518	32.8	0.0106	0.7305	0.0432	36.2	0.0088
40	0.6950	0.0571	29.5	0.0118	0.6989	0.0441	32.7	0.0090
45	0.6553	0.0634	26.1	0.0131	0.6681	0.0468	29.1	0.0096
50	0.6137	0.0735	22.7	0.0153	0.6368	0.0532	25.4	0.0109
55	0.5686	0.0909	19.3	0.0190	0.6029	0.0665	21.7	0.0138
60	0.5170	0.1215	16.0	0.0259	0.5628	0.0911	18.0	0.0191
65	0.4541	0.1733	12.8	0.0379	0.5115	0.1327	14.6	0.0284
70	0.3754	0.2552	10.0	0.0585	0.4436	0.2001	11.4	0.0445
75	0.2796	0.3770	7.5	0.0929	0.3548	0.3063	8.7	0.0723
80	0.1742	0.5357	5.6	0.1786	0.2461	0.4573	6.4	0.1564
85	0.0809	0.7086	4.2		0.1336	0.6385	4.7	
90	0.0236	0.8490	3.3		0.0483	0.7987	3.5	
95	0.0036	1.0000	2.5		0.0097	1.0000	2.5	

MALINDI								
AGE	MALES				FEMALES			
	l(x)	nqx	e(x)	m(x)	l(x)	nqx	e(x)	m(x)
0	1.0000	0.0696	52.2	0.0735	1.0000	0.0787	56.4	0.0836
1	0.9304	0.0617	55.1	0.0159	0.9213	0.0524	60.1	0.0135
5	0.8730	0.0250	54.6	0.0051	0.8730	0.0196	59.4	0.0040
10	0.8511	0.0101	50.9	0.0020	0.8559	0.0077	55.5	0.0015
15	0.8426	0.0172	46.4	0.0035	0.8493	0.0139	50.9	0.0028
20	0.8281	0.0239	42.2	0.0048	0.8375	0.0268	46.6	0.0054
25	0.8083	0.0330	38.1	0.0067	0.8151	0.0364	42.8	0.0074
30	0.7816	0.0470	34.3	0.0096	0.7854	0.0405	39.3	0.0083
35	0.7449	0.0570	30.9	0.0117	0.7536	0.0423	35.9	0.0086
40	0.7024	0.0641	27.6	0.0132	0.7217	0.0437	32.4	0.0089
45	0.6574	0.0724	24.4	0.0150	0.6902	0.0467	28.7	0.0096
50	0.6098	0.0850	21.1	0.0178	0.6579	0.0536	25.0	0.0110
55	0.5579	0.1064	17.8	0.0225	0.6227	0.0676	21.3	0.0140
60	0.4986	0.1434	14.6	0.0309	0.5806	0.0934	17.6	0.0196
65	0.4271	0.2050	11.6	0.0457	0.5264	0.1375	14.2	0.0295
70	0.3396	0.3000	9.0	0.0706	0.4540	0.2092	11.1	0.0467
75	0.2377	0.4347	6.8	0.1111	0.3590	0.3223	8.3	0.0768
80	0.1344	0.5979	5.0	0.1983	0.2433	0.4804	6.1	0.1632
85	0.0540	0.7623	3.8		0.1264	0.6641	4.5	
90	0.0128	0.8863	3.1		0.0425	0.8196	3.4	
95	0.0015	1.0000	2.5		0.0077	1.0000	2.5	

Volume V: Analytical Report on Mortality

EASTERN								
AGE	MALES				FEMALES			
	l(x)	nqx	e(x)	m(x)	l(x)	nqx	e(x)	m(x)
0	1.0000	0.0406	57.6	0.0418	1.0000	0.0475	65.5	0.0492
1	0.9594	0.0411	59.0	0.0105	0.9525	0.0310	67.7	0.0079
5	0.9200	0.0174	57.5	0.0035	0.9230	0.0116	65.8	0.0023
10	0.9040	0.0071	53.5	0.0014	0.9123	0.0045	61.6	0.0009
15	0.8976	0.0122	48.8	0.0025	0.9082	0.0082	56.8	0.0016
20	0.8866	0.0174	44.4	0.0035	0.9007	0.0159	52.3	0.0032
25	0.8712	0.0244	40.1	0.0049	0.8864	0.0219	48.1	0.0044
30	0.8499	0.0358	36.1	0.0073	0.8669	0.0246	44.1	0.0050
35	0.8195	0.0448	32.3	0.0092	0.8456	0.0260	40.2	0.0053
40	0.7828	0.0519	28.7	0.0107	0.8236	0.0272	36.2	0.0055
45	0.7422	0.0604	25.2	0.0125	0.8012	0.0295	32.1	0.0060
50	0.6974	0.0731	21.6	0.0152	0.7776	0.0343	28.0	0.0070
55	0.6464	0.0945	18.1	0.0198	0.7509	0.0441	23.9	0.0090
60	0.5853	0.1321	14.8	0.0283	0.7178	0.0626	19.9	0.0129
65	0.5080	0.1964	11.6	0.0436	0.6729	0.0958	16.1	0.0201
70	0.4082	0.2989	8.8	0.0703	0.6084	0.1542	12.5	0.0334
75	0.2862	0.4468	6.6	0.1151	0.5146	0.2565	9.4	0.0588
80	0.1583	0.6225	4.8	0.2073	0.3826	0.4183	6.7	0.1489
85	0.0598	0.7891	3.7		0.2226	0.6245	4.7	
90	0.0126	0.9056	3.0		0.0836	0.8022	3.5	
95	0.0012	1.0000	2.5		0.0165	1.0000	2.5	

EMBU								
AGE	MALES				FEMALES			
	l(x)	nqx	e(x)	m(x)	l(x)	nqx	e(x)	m(x)
0	1.0000	0.0372	60.7	0.0383	1.0000	0.0449	71.9	0.0465
1	0.9628	0.0351	62.0	0.0089	0.9551	0.0231	74.2	0.0058
5	0.9290	0.0146	60.2	0.0029	0.9330	0.0082	72.0	0.0016
10	0.9155	0.0059	56.1	0.0012	0.9254	0.0032	67.5	0.0006
15	0.9101	0.0101	51.4	0.0020	0.9224	0.0057	62.7	0.0011
20	0.9008	0.0143	46.9	0.0029	0.9172	0.0108	58.1	0.0022
25	0.8879	0.0201	42.5	0.0041	0.9073	0.0145	53.7	0.0029
30	0.8701	0.0293	38.4	0.0060	0.8941	0.0160	49.4	0.0032
35	0.8446	0.0366	34.5	0.0074	0.8798	0.0165	45.2	0.0033
40	0.8137	0.0423	30.7	0.0086	0.8652	0.0170	40.9	0.0034
45	0.7793	0.0492	26.9	0.0101	0.8506	0.0182	36.6	0.0037
50	0.7409	0.0597	23.2	0.0123	0.8351	0.0209	32.2	0.0042
55	0.6967	0.0776	19.5	0.0161	0.8177	0.0266	27.9	0.0054
60	0.6426	0.1095	15.9	0.0232	0.7959	0.0374	23.5	0.0076
65	0.5723	0.1657	12.6	0.0361	0.7661	0.0571	19.4	0.0118
70	0.4774	0.2596	9.6	0.0597	0.7224	0.0928	15.4	0.0195
75	0.3535	0.4034	7.0	0.1011	0.6553	0.1603	11.7	0.0348
80	0.2109	0.5856	5.1	0.1956	0.5503	0.2847	8.5	0.1183
85	0.0874	0.7649	3.8		0.3936	0.4858	5.8	
90	0.0205	0.8919	3.0		0.2024	0.7058	4.0	
95	0.0022	1.0000	2.5		0.0596	1.0000	2.5	

ISIOLO								
AGE	MALES				FEMALES			
	l(x)	nqx	e(x)	m(x)	l(x)	nqx	e(x)	m(x)
0	1.0000	0.0752	54.3	0.0797	1.0000	0.0749	60 9	0.0794
1	0.9248	0.0581	57.7	0.0150	0.9251	0.0433	64.8	0.0111
5	0.8710	0.0228	57.1	0.0046	0.8850	0.0157	63.6	0.0032
10	0.8512	0.0090	53.4	0.0018	0.8711	0.0061	59.6	0.0012
15	0.8435	0.0153	48.9	0.0031	0.8658	0.0109	54.9	0.0022
20	0.8306	0.0212	44.6	0.0043	0.8563	0.0210	50.5	0.0042
25	0.8130	0.0289	40.5	0.0059	0.8384	0.0282	46.6	0.0057
30	0.7895	0.0407	36.6	0.0083	0.8147	0.0311	42.8	0.0063
35	0.7574	0.0488	33.1	0.0100	0.7894	0.0322	39.1	0.0065
40	0.7204	0.0543	29.7	0.0112	0.7640	0.0330	35.3	0.0067
45	0.6813	0.0608	26.2	0.0125	0.7388	0.0351	31.5	0.0071
50	0.6399	0.0710	22.8	0.0147	0.7129	0.0402	27.5	0.0082
55	0.5945	0.0886	19.3	0.0185	0.6842	0.0506	23.6	0.0104
60	0.5418	0.1195	15.9	0.0254	0.6496	0.0702	19.7	0.0146
65	0.4771	0.1722	12.8	0.0377	0.6040	0.1042	16.0	0.0220
70	0.3949	0.2562	9.9	0.0588	0.5410	0.1618	12.6	0.0352
75	0.2937	0.3819	7.4	0.0944	0.4535	0.2582	9.5	0.0593
80	0.1816	0.5447	5.5	0.1816	0.3364	0.4065	6.9	0.1443
85	0.0827	0.7192	4.1		0.1996	0.5980	5.0	
90	0.0232	0.8576	3.2		0.0802	0.7740	3.6	
95	0.0033	1.0000	2.5		0.0181	1.0000	2.5	

Kenya 1999 Population and Housing Census

KITUI								
AGE	MALES				FEMALES			
	l(x)	nqx	e(x)	m(x)	l(x)	nqx	e(x)	m(x)
0	1.0000	0.0645	53.0	0.0677	1.0000	0.0726	61.1	0.0767
1	0.9355	0.0583	55.6	0.0150	0.9274	0.0425	64.9	0.0109
5	0.8810	0.0238	55.0	0.0048	0.8880	0.0154	63.7	0.0031
10	0.8600	0.0096	51.3	0.0019	0.8743	0.0060	59.6	0.0012
15	0.8518	0.0164	46.7	0.0033	0.8690	0.0108	55.0	0.0022
20	0.8378	0.0229	42.5	0.0046	0.8597	0.0207	50.6	0.0042
25	0.8186	0.0317	38.4	0.0064	0.8419	0.0279	46.6	0.0057
30	0.7927	0.0453	34.6	0.0093	0.8184	0.0308	42.8	0.0062
35	0.7568	0.0553	31.1	0.0114	0.7932	0.0319	39.1	0.0065
40	0.7149	0.0624	27.8	0.0129	0.7679	0.0327	35.3	0.0067
45	0.6703	0.0707	24.5	0.0147	0.7428	0.0349	31.4	0.0071
50	0.6229	0.0834	21.1	0.0174	0.7168	0.0400	27.5	0.0082
55	0.5709	0.1049	17.8	0.0221	0.6881	0.0505	23.5	0.0104
60	0.5111	0.1420	14.6	0.0306	0.6534	0.0702	19.7	0.0145
65	0.4385	0.2042	11.6	0.0455	0.6075	0.1044	15.9	0.0220
70	0.3490	0.3003	9.0	0.0707	0.5441	0.1623	12.5	0.0353
75	0.2442	0.4368	6.7	0.1118	0.4558	0.2597	9.5	0.0597
80	0.1375	0.6018	5.0	0.1997	0.3374	0.4093	6.9	0.1451
85	0.0548	0.7665	3.8		0.1993	0.6017	4.9	
90	0.0128	0.8894	3.1		0.0794	0.7773	3.6	
95	0.0014	1.0000	2.5		0.0177	1.0000	2.5	

MAKUENI								
AGE	MALES				FEMALES			
	l(x)	nqx	e(x)	m(x)	l(x)	nqx	e(x)	m(x)
0	1.0000	0.0478	53.9	0.0496	1.0000	0.0527	60.4	0.0549
1	0.9522	0.0506	55.6	0.0130	0.9473	0.0394	62.8	0.0100
5	0.9040	0.0217	54.5	0.0044	0.9100	0.0152	61.3	0.0031
10	0.8844	0.0088	50.6	0.0018	0.8962	0.0060	57.2	0.0012
15	0.8766	0.0153	46.1	0.0031	0.8908	0.0109	52.5	0.0022
20	0.8632	0.0217	41.7	0.0044	0.8811	0.0214	48.1	0.0043
25	0.8444	0.0306	37.6	0.0062	0.8622	0.0297	44.1	0.0060
30	0.8186	0.0447	33.7	0.0091	0.8366	0.0338	40.3	0.0069
35	0.7820	0.0558	30.2	0.0115	0.8083	0.0360	36.7	0.0073
40	0.7384	0.0644	26.8	0.0133	0.7792	0.0379	32.9	0.0077
45	0.6309	0.0744	23.5	0.0155	0.7497	0.0412	29.1	0.0084
50	0.6394	0.0894	20.2	0.0187	0.7188	0.0482	25.3	0.0099
55	0.5823	0.1141	16.9	0.0242	0.6842	0.0619	21.4	0.0128
60	0.5159	0.1566	13.8	0.0340	0.6418	0.0875	17.7	0.0183
65	0.4351	0.2272	10.8	0.0513	0.5856	0.1323	14.2	0.0283
70	0.3363	0.3344	8.3	0.0803	0.5082	0.2074	10.9	0.0463
75	0.2238	0.4812	6.2	0.1267	0.4028	0.3289	8.1	0.0787
80	0.1161	0.6484	4.6	0.2159	0.2703	0.4996	5.9	0.1696
85	0.0408	0.8048	3.6		0.1353	0.6910	4.3	
90	0.0080	0.9142	2.9		0.0418	0.8430	3.3	
95	0.0007	1.0000	2.5		0.0066	1.0000	2.5	

MACHAKOS								
AGE	MALES				FEMALES			
	l(x)	nqx	e(x)	m(x)	l(x)	nqx	e(x)	m(x)
0	1.0000	0.0406	55.1	0.0418	1.0000	0.0472	62.8	0.0489
1	0.9594	0.0453	56.4	0.0116	0.9528	0.0344	64.9	0.0088
5	0.9160	0.0197	55.0	0.0040	0.9200	0.0132	63.2	0.0027
10	0.8979	0.0081	51.1	0.0016	0.9079	0.0052	59.0	0.0010
15	0.8907	0.0141	46.5	0.0028	0.9031	0.0095	54.3	0.0019
20	0.8782	0.0201	42.1	0.0041	0.8946	0.0186	49.8	0.0037
25	0.8605	0.0285	37.9	0.0058	0.8780	0.0258	45.7	0.0052
30	0.8360	0.0421	33.9	0.0086	0.8553	0.0293	41.8	0.0060
35	0.8008	0.0531	30.3	0.0109	0.8302	0.0313	38.0	0.0064
40	0.7584	0.0619	26.9	0.0128	0.8042	0.0329	34.1	0.0067
45	0.7114	0.0723	23.5	0.0150	0.7777	0.0360	30.2	0.0073
50	0.6600	0.0876	20.1	0.0183	0.7498	0.0421	26.3	0.0086
55	0.6021	0.1130	16.8	0.0240	0.7182	0.0543	22.3	0.0112
60	0.5341	0.1567	13.6	0.0340	0.6792	0.0773	18.4	0.0161
65	0.4504	0.2295	10.7	0.0518	0.6267	0.1180	14.8	0.0251
70	0.3471	0.3405	8.2	0.0821	0.5528	0.1880	11.4	0.0415
75	0.2289	0.4916	6.1	0.1304	0.4488	0.3052	8.5	0.0720
80	0.1164	0.6609	4.5	0.2206	0.3119	0.4767	6.1	0.1638
85	0.0395	0.8156	3.5		0.1632	0.6754	4.4	
90	0.0073	0.9211	2.9		0.0530	0.8347	3.3	
95	0.0006	1.0000	2.5		0.0088	1.0000	2.5	

Volume V: Analytical Report on Mortality

MARSABIT								
AGE	MALES				FEMALES			
	l(x)	nqx	e(x)	m(x)	l(x)	nqx	e(x)	m(x)
0	1.0000	0.0418	57.4	0.0432	1.0000	0.0459	64.0	0.0476
1	0.9582	0.0419	58.9	0.0107	0.9541	0.0326	66.0	0.0083
5	0.9180	0.0177	57.4	0.0036	0.9230	0.0124	64.2	0.0025
10	0.9018	0.0072	53.4	0.0014	0.9116	0.0049	60.0	0.0010
15	0.8953	0.0124	48.8	0.0025	0.9071	0.0089	55.2	0.0018
20	0.8842	0.0176	44.4	0.0035	0.8991	0.0174	50.7	0.0035
25	0.8687	0.0247	40.1	0.0050	0.8835	0.0241	46.6	0.0049
30	0.8472	0.0361	36.1	0.0074	0.8622	0.0273	42.7	0.0055
35	0.8166	0.0451	32.3	0.0092	0.8387	0.0291	38.8	0.0059
40	0.7798	0.0522	28.7	0.0107	0.8143	0.0305	34.9	0.0062
45	0.7391	0.0606	25.2	0.0125	0.7894	0.0333	30.9	0.0068
50	0.6943	0.0732	21.6	0.0152	0.7631	0.0390	26.9	0.0080
55	0.6434	0.0945	18.2	0.0198	0.7333	0.0503	22.9	0.0103
60	0.5826	0.1318	14.8	0.0282	0.6964	0.0717	18.9	0.0149
65	0.5059	0.1956	11.7	0.0434	0.6465	0.1098	15.2	0.0232
70	0.4069	0.2973	8.9	0.0698	0.5755	0.1761	11.8	0.0386
75	0.2859	0.4442	6.6	0.1142	0.4742	0.2889	8.7	0.0675
80	0.1589	0.6194	4.8	0.2062	0.3372	0.4588	6.3	0.1592
85	0.0605	0.7864	3.7		0.1825	0.6613	4.5	
90	0.0129	0.9038	3.0		0.0618	0.8263	3.4	
95	0.0012	1.0000	2.5		0.0107	1.0000	2.5	

MBEERE								
AGE	MALES				FEMALES			
	l(x)	nqx	e(x)	m(x)	l(x)	nqx	e(x)	m(x)
0	1.0000	0.0394	59.2	0.0406	1.0000	0.0446	66.8	0.0461
1	0.9606	0.0381	60.6	0.0097	0.9554	0.0287	68.9	0.0073
5	0.9240	0.0159	59.0	0.0032	0.9280	0.0107	66.9	0.0021
10	0.9093	0.0065	54.9	0.0013	0.9181	0.0042	62.6	0.0008
15	0.9034	0.0111	50.2	0.0022	0.9143	0.0076	57.8	0.0015
20	0.8934	0.0157	45.8	0.0032	0.9074	0.0147	53.3	0.0030
25	0.8793	0.0221	41.5	0.0045	0.8940	0.0202	49.0	0.0041
30	0.8599	0.0322	37.3	0.0066	0.8760	0.0226	45.0	0.0046
35	0.8321	0.0402	33.5	0.0082	0.8562	0.0239	41.0	0.0048
40	0.7987	0.0465	29.8	0.0095	0.8357	0.0250	36.9	0.0051
45	0.7615	0.0541	26.1	0.0111	0.8148	0.0271	32.8	0.0055
50	0.7203	0.0655	22.5	0.0136	0.7928	0.0316	28.6	0.0064
55	0.6731	0.0849	18.9	0.0177	0.7677	0.0406	24.5	0.0083
60	0.6159	0.1192	15.4	0.0253	0.7365	0.0579	20.4	0.0119
65	0.5425	0.1789	12.2	0.0393	0.6939	0.0889	16.5	0.0186
70	0.4455	0.2764	9.3	0.0641	0.6322	0.1441	12.9	0.0311
75	0.3224	0.4218	6.8	0.1069	0.5412	0.2425	9.6	0.0552
80	0.1864	0.6010	5.0	0.2003	0.4099	0.4025	6.9	0.1453
85	0.0744	0.7745	3.7		0.2450	0.6120	4.8	
90	0.0168	0.8972	3.0		0.0950	0.7954	3.5	
95	0.0017	1.0000	2.5		0.0194	1.0000	2.5	

MERU CENTRAL								
AGE	MALES				FEMALES			
	l(x)	nqx	e(x)	m(x)	l(x)	nqx	e(x)	m(x)
0	1.0000	0.0421	61.8	0.0435	1.0000	0.0462	67.6	0.0478
1	0.9579	0.0354	63.5	0.0090	0.9538	0.0281	69.8	0.0071
5	0.9240	0.0142	61.8	0.0029	0.9270	0.0103	67.8	0.0021
10	0.9109	0.0057	57.7	0.0011	0.9174	0.0040	63.5	0.0008
15	0.9057	0.0097	53.0	0.0020	0.9137	0.0073	58.7	0.0015
20	0.8969	0.0136	48.5	0.0027	0.9071	0.0141	54.1	0.0028
25	0.8847	0.0189	44.1	0.0038	0.8943	0.0192	49.9	0.0039
30	0.8680	0.0271	39.9	0.0055	0.8771	0.0215	45.8	0.0043
35	0.8445	0.0334	35.9	0.0068	0.8583	0.0226	41.7	0.0046
40	0.8163	0.0381	32.1	0.0078	0.8389	0.0234	37.6	0.0047
45	0.7852	0.0438	28.3	0.0089	0.8192	0.0253	33.5	0.0051
50	0.7509	0.0526	24.5	0.0108	0.7985	0.0294	29.3	0.0060
55	0.7114	0.0677	20.7	0.0140	0.7750	0.0377	25.1	0.0077
60	0.6632	0.0949	17.0	0.0199	0.7457	0.0536	21.0	0.0110
65	0.6003	0.1435	13.5	0.0309	0.7058	0.0820	17.0	0.0171
70	0.5141	0.2261	10.4	0.0510	0.6479	0.1329	13.3	0.0285
75	0.3979	0.3585	7.6	0.0874	0.5618	0.2246	10.0	0.0506
80	0.2552	0.5380	5.5	0.1811	0.4356	0.3777	7.2	0.1392
85	0.1179	0.7274	4.0		0.2710	0.5870	5.0	
90	0.0321	0.8686	3.2		0.1120	0.7780	3.6	
95	0.0042	1.0000	2.5		0.0249	1.0000	2.5	

Kenya 1999 Population and Housing Census

MOYALE

AGE	MALES				FEMALES			
	l(x)	nqx	e(x)	m(x)	l(x)	nqx	e(x)	m(x)
0	1.0000	0.0778	55.7	0.0827	1.0000	0.0742	56.9	0.0785
1	0.9222	0.0555	59.4	0.0143	0.9258	0.0506	60.4	0.0130
5	0.8710	0.0213	58.8	0.0043	0.8790	0.0190	59.5	0.0038
10	0.8525	0.0084	55.0	0.0017	0.8623	0.0075	55.6	0.0015
15	0.8453	0.0142	50.5	0.0029	0.8558	0.0135	51.0	0.0027
20	0.8333	0.0195	46.2	0.0039	0.8443	0.0261	46.7	0.0053
25	0.8170	0.0265	42.0	0.0054	0.8222	0.0357	42.9	0.0073
30	0.7954	0.0370	38.1	0.0075	0.7929	0.0399	39.3	0.0081
35	0.7659	0.0441	34.5	0.0090	0.7613	0.0418	35.9	0.0085
40	0.7321	0.0488	30.9	0.0100	0.7295	0.0432	32.3	0.0088
45	0.6964	0.0544	27.4	0.0112	0.6979	0.0464	28.7	0.0095
50	0.6585	0.0633	23.8	0.0131	0.6655	0.0534	25.0	0.0110
55	0.6168	0.0789	20.3	0.0164	0.6300	0.0675	21.2	0.0140
60	0.5682	0.1064	16.8	0.0225	0.5875	0.0936	17.6	0.0196
65	0.5077	0.1539	13.5	0.0333	0.5325	0.1382	14.1	0.0297
70	0.4296	0.2310	10.5	0.0522	0.4590	0.2110	11.0	0.0472
75	0.3303	0.3500	7.9	0.0848	0.3621	0.3259	8.3	0.0779
80	0.2147	0.5108	5.8	0.1717	0.2441	0.4862	6.1	0.1649
85	0.1050	0.6907	4.3		0.1254	0.6706	4.4	
90	0.0325	0.8381	3.3		0.0413	0.8249	3.4	
95	0.0053	1.0000	2.5		0.0072	1.0000	2.5	

MWINGI

AGE	MALES				FEMALES			
	l(x)	nqx	e(x)	m(x)	l(x)	nqx	e(x)	m(x)
0	1.0000	0.0786	55.7	0.0836	1.0000	0.0895	65.7	0.0959
1	0.9214	0.0557	59.4	0.0144	0.9105	0.0368	71.1	0.0094
5	0.8700	0.0214	58.8	0.0043	0.8770	0.0125	69.7	0.0025
10	0.8514	0.0084	55.0	0.0017	0.8661	0.0047	65.6	0.0010
15	0.8442	0.0142	50.5	0.0029	0.8620	0.0084	60.9	0.0017
20	0.8322	0.0196	46.2	0.0040	0.8547	0.0157	56.4	0.0032
25	0.8159	0.0265	42.0	0.0054	0.8413	0.0206	52.2	0.0042
30	0.7943	0.0371	38.1	0.0076	0.8240	0.0219	48.3	0.0044
35	0.7649	0.0441	34.5	0.0090	0.8059	0.0221	44.3	0.0045
40	0.7311	0.0488	31.0	0.0100	0.7881	0.0221	40.3	0.0045
45	0.6955	0.0544	27.4	0.0112	0.7706	0.0231	36.1	0.0047
50	0.6577	0.0632	23.9	0.0131	0.7528	0.0259	31.9	0.0053
55	0.6161	0.0787	20.3	0.0164	0.7333	0.0321	27.7	0.0065
60	0.5676	0.1061	16.8	0.0224	0.7097	0.0439	23.5	0.0090
65	0.5074	0.1534	13.5	0.0332	0.6786	0.0643	19.5	0.0133
70	0.4295	0.2301	10.5	0.0520	0.6350	0.0993	15.7	0.0209
75	0.3307	0.3486	7.9	0.0844	0.5719	0.1611	12.1	0.0350
80	0.2154	0.5091	5.8	0.1712	0.4798	0.2682	9.0	0.1117
85	0.1057	0.6890	4.3		0.3511	0.4384	6.3	
90	0.0329	0.8369	3.3		0.1972	0.6399	4.3	
95	0.0054	1.0000	2.5		0.0710	1.0000	2.5	

MERU NORTH

AGE	MALES				FEMALES			
	l(x)	nqx	e(x)	m(x)	l(x)	nqx	e(x)	m(x)
0	1.0000	0.0363	58.4	0.0373	1.0000	0.0382	63.2	0.0393
1	0.9637	0.0381	59.5	0.0097	0.9618	0.0310	64.7	0.0079
5	0.9270	0.0163	57.8	0.0033	0.9320	0.0122	62.8	0.0025
10	0.9119	0.0067	53.7	0.0013	0.9206	0.0049	58.5	0.0010
15	0.9058	0.0115	49.1	0.0023	0.9161	0.0089	53.8	0.0018
20	0.8954	0.0164	44.6	0.0033	0.9079	0.0177	49.2	0.0036
25	0.8807	0.0233	40.3	0.0047	0.8918	0.0250	45.1	0.0051
30	0.8602	0.0342	36.2	0.0070	0.8695	0.0289	41.2	0.0059
35	0.8307	0.0432	32.4	0.0088	0.8444	0.0313	37.3	0.0064
40	0.7949	0.0504	28.8	0.0103	0.8179	0.0334	33.5	0.0068
45	0.7548	0.0590	25.2	0.0122	0.7906	0.0369	29.5	0.0075
50	0.7102	0.0720	21.6	0.0149	0.7614	0.0437	25.6	0.0089
55	0.6591	0.0936	18.1	0.0196	0.7281	0.0571	21.6	0.0118
60	0.5974	0.1317	14.7	0.0282	0.6865	0.0822	17.8	0.0172
65	0.5187	0.1974	11.5	0.0438	0.6301	0.1271	14.1	0.0272
70	0.4164	0.3023	8.8	0.0712	0.5500	0.2047	10.8	0.0456
75	0.2905	0.4535	6.5	0.1173	0.4374	0.3329	8.0	0.0799
80	0.1588	0.6313	4.8	0.2105	0.2918	0.5140	5.7	0.1745
85	0.0585	0.7969	3.6		0.1418	0.7113	4.1	
90	0.0119	0.9107	2.9		0.0409	0.8598	3.2	
95	0.0011	1.0000	2.5		0.0057	1.0000	2.5	

Volume V: Analytical Report on Mortality

THARAKA								
AGE	MALES				FEMALES			
	<i>l(x)</i>	<i>nqx</i>	<i>e(x)</i>	<i>m(x)</i>	<i>l(x)</i>	<i>nqx</i>	<i>e(x)</i>	<i>m(x)</i>
0	1.0000	0.0860	48.9	0.0920	1.0000	0.1037	56.2	0.1124
1	0.9140	0.0744	52.4	0.0193	0.8963	0.0562	61.7	0.0145
5	0.8460	0.0300	52.5	0.0061	0.8460	0.0200	61.2	0.0040
10	0.8207	0.0120	49.1	0.0024	0.8291	0.0077	57.4	0.0016
15	0.8108	0.0204	44.6	0.0041	0.8227	0.0138	52.9	0.0028
20	0.7943	0.0283	40.5	0.0057	0.8113	0.0262	48.6	0.0053
25	0.7718	0.0387	36.6	0.0079	0.7901	0.0348	44.8	0.0071
30	0.7419	0.0546	33.0	0.0112	0.7626	0.0378	41.3	0.0077
35	0.7014	0.0656	29.7	0.0136	0.7338	0.0386	37.9	0.0079
40	0.6554	0.0729	26.6	0.0151	0.7054	0.0391	34.3	0.0080
45	0.6076	0.0814	23.5	0.0170	0.6779	0.0412	30.6	0.0084
50	0.5582	0.0944	20.4	0.0198	0.6500	0.0465	26.8	0.0095
55	0.5055	0.1166	17.3	0.0248	0.6197	0.0578	23.0	0.0119
60	0.4465	0.1547	14.2	0.0335	0.5839	0.0789	19.2	0.0164
65	0.3775	0.2173	11.4	0.0488	0.5378	0.1147	15.6	0.0243
70	0.2954	0.3116	8.8	0.0738	0.4762	0.1733	12.4	0.0379
75	0.2034	0.4428	6.7	0.1138	0.3937	0.2681	9.4	0.0619
80	0.1133	0.6007	5.0	0.1989	0.2881	0.4094	7.0	0.1439
85	0.0452	0.7612	3.8		0.1701	0.5906	5.0	
90	0.0108	0.8845	3.1		0.0697	0.7615	3.7	
95	0.0012	1.0000	2.5		0.0166	1.0000	2.5	

NITHI (MERU S.)								
AGE	MALES				FEMALES			
	<i>l(x)</i>	<i>nqx</i>	<i>e(x)</i>	<i>m(x)</i>	<i>l(x)</i>	<i>nqx</i>	<i>e(x)</i>	<i>m(x)</i>
0	1.0000	0.0499	61.6	0.0518	1.0000	0.0600	67.5	0.0628
1	0.9501	0.0380	63.9	0.0097	0.9400	0.0309	70.8	0.0078
5	0.9140	0.0149	62.3	0.0030	0.9110	0.0109	69 0	0.0022
10	0.9004	0.0059	58.2	0.0012	0.9011	0.0042	64.7	0.0008
15	0.8951	0.0100	53.6	0.0020	0.8973	0.0075	60.0	0.0015
20	0.8861	0.0140	49.1	0.0028	0.8905	0.0144	55.4	0.0029
25	0.8737	0.0192	44.7	0.0039	0.8777	0.0192	51.2	0.0039
30	0.8570	0.0272	40.6	0.0055	0.8608	0.0210	47.2	0.0043
35	0.8337	0.0330	36.6	0.0067	0.8427	0.0217	43.1	0.0044
40	0.8061	0.0372	32.8	0.0076	0.8244	0.0222	39.0	0.0045
45	0.7761	0.0423	29.0	0.0086	0.8062	0.0236	34.9	0.0048
50	0.7433	0.0503	25.1	0.0103	0.7872	0.0270	30.6	0.0055
55	0.7059	0.0641	21.3	0.0132	0.7659	0.0341	26.4	0.0069
60	0.6607	0.0889	17.6	0.0186	0.7398	0.0476	22.3	0.0097
65	0.6019	0.1331	14.1	0.0285	0.7046	0.0716	18.2	0.0148
70	0.5218	0.2086	10.9	0.0466	0.6542	0.1138	14.5	0.0241
75	0.4129	0.3315	8.1	0.0795	0.5797	0.1900	11.0	0.0420
80	0.2760	0.5043	5.8	0.1711	0.4696	0.3214	8.0	0.1252
85	0.1368	0.6969	4.2		0.3187	0.5174	5.6	
90	0.0415	0.8478	3.3		0.1538	0.7203	3.9	
95	0.0063	1.0000	2.5		0.0430	1.0000	2.5	

NORTH EASTERN								
AGE	MALES				FEMALES			
	<i>l(x)</i>	<i>nqx</i>	<i>e(x)</i>	<i>m(x)</i>	<i>l(x)</i>	<i>nqx</i>	<i>e(x)</i>	<i>m(x)</i>
0	1.0000	0.0712	62.2	0.0753	1.0000	0.0590	61.5	0.0617
1	0.9288	0.0417	65.9	0.0107	0.9410	0.0393	64.3	0.0100
5	0.8900	0.0153	64.7	0.0031	0.9040	0.0147	62.9	0.0030
10	0.8764	0.0060	60.7	0.0012	0.8907	0.0058	58.8	0.0012
15	0.8712	0.0100	56.0	0.0020	0.8856	0.0104	54.1	0.0021
20	0.8624	0.0136	51.6	0.0027	0.8763	0.0203	49.7	0.0041
25	0.8507	0.0183	47.3	0.0037	0.8585	0.0278	45.6	0.0056
30	0.8351	0.0253	43.1	0.0051	0.8347	0.0311	41.9	0.0063
35	0.8140	0.0298	39.2	0.0060	0.8087	0.0328	38.1	0.0067
40	0.7898	0.0326	35.3	0.0066	0.7822	0.0341	34.3	0.0069
45	0.7641	0.0361	31.4	0.0073	0.7555	0.0368	30.5	0.0075
50	0.7365	0.0418	27.5	0.0085	0.7277	0.0426	26.5	0.0087
55	0.7057	0.0520	23.6	0.0107	0.6967	0.0544	22.6	0.0112
60	0.6690	0.0706	19.7	0.0146	0.6588	0.0765	18.8	0.0159
65	0.6217	0.1036	16.0	0.0219	0.6084	0.1151	15.1	0.0244
70	0.5573	0.1604	12.6	0.0349	0.5383	0.1808	11.8	0.0398
75	0.4679	0.2568	9.5	0.0589	0.4410	0.2901	8.8	0.0679
80	0.3478	0.4063	6.9	0.1445	0.3131	0.4524	6.4	0.1567
85	0.2065	0.6000	4.9		0.1714	0.6479	4.6	
90	0.0826	0.7770	3.6		0.0604	0.8132	3.4	
95	0.0184	1.0000	2.5		0.0113	1.0000	2.5	

Kenya 1999 Population and Housing Census

GARISSA								
AGE	MALES				FEMALES			
	l(x)	nqx	e(x)	m(x)	l(x)	nqx	e(x)	m(x)
0	1.0000	0.0697	60.0	0.0736	1.0000	0.0656	58.7	0.0690
1	0.9303	0.0454	63.4	0.0116	0.9344	0.0454	61.8	0.0116
5	0.8880	0.0171	62.4	0.0034	0.8920	0.0171	60.7	0.0035
10	0.8728	0.0067	58.4	0.0013	0.8767	0.0067	56.7	0.0014
15	0.8670	0.0113	53.8	0.0023	0.8708	0.0122	52.0	0.0025
20	0.8572	0.0155	49.4	0.0031	0.8602	0.0237	47.6	0.0048
25	0.8439	0.0209	45.1	0.0042	0.8398	0.0325	43.7	0.0066
30	0.8263	0.0291	41.0	0.0059	0.8125	0.0365	40.1	0.0074
35	0.8022	0.0346	37.2	0.0070	0.7829	0.0384	36.6	0.0078
40	0.7745	0.0382	33.4	0.0078	0.7528	0.0399	32.9	0.0081
45	0.7449	0.0426	29.7	0.0087	0.7228	0.0430	29.2	0.0088
50	0.7132	0.0496	25.9	0.0102	0.6917	0.0497	25.4	0.0102
55	0.6778	0.0620	22.1	0.0128	0.6573	0.0632	21.6	0.0131
60	0.6358	0.0843	18.4	0.0176	0.6157	0.0883	17.9	0.0185
65	0.5822	0.1236	14.8	0.0264	0.5613	0.1317	14.3	0.0282
70	0.5102	0.1901	11.6	0.0420	0.4874	0.2035	11.1	0.0453
75	0.4132	0.2988	8.7	0.0703	0.3882	0.3187	8.4	0.0758
80	0.2898	0.4575	6.3	0.1575	0.2645	0.4818	6.1	0.1641
85	0.1572	0.6479	4.6		0.1371	0.6702	4.4	
90	0.0554	0.8107	3.4		0.0452	0.8263	3.4	
95	0.0105	1.0000	2.5		0.0079	1.0000	2.5	

MANDERA								
AGE	MALES				FEMALES			
		nqx	e(x)	m(x)		nqx		m(x)
0	1.0000	0.0709	61.4	0.0749	1.0000	0.0638	60.5	0.0670
1	0.9291	0.0431	65 0	0.0110	0.9362	0.0419	63.6	0.0107
5	0.8890	0.0160	63.9	0.0032	0.8970	0.0156	62.3	0.0032
10	0.8748	0.0062	59.9	0.0012	0.8830	0.0061	58.3	0.0012
15	0.8694	0.0105	55.2	0.0021	0.8776	0.0111	53.6	0.0022
20	0.8603	0.0143	50.8	0.0029	0.8678	0.0214	49.2	0.0043
25	0.8480	0.0192	46.5	0.0039	0.8492	0.0293	45.2	0.0059
30	0.8317	0.0266	42.3	0.0054	0.8243	0.0328	41.5	0.0067
35	0.8095	0.0315	38.4	0.0064	0.7973	0.0344	37.8	0.0070
40	0.7840	0.0346	34.6	0.0070	0.7699	0.0357	34.1	0.0073
45	0.7569	0.0383	30.7	0.0078	0.7425	0.0384	30.2	0.0078
50	0.7279	0.0445	26.9	0.0091	0.7140	0.0443	26.3	0.0091
55	0.6955	0.0555	23.0	0.0114	0.6823	0.0564	22.4	0.0116
60	0.6569	0.0754	19.2	0.0157	0.6439	0.0789	18.6	0.0164
65	0.6074	0.1106	15.6	0.0234	0.5930	0.1181	15.0	0.0251
70	0.5402	0.1708	12.2	0.0373	0.5230	0.1843	11.7	0.0406
75	0.4479	0.2717	9.2	0.0629	0.4266	0.2932	8.8	0.0687
80	0.3262	0.4248	6.7	0.1491	0.3015	0.4536	6.4	0.1568
85	0.1876	0.6177	4.8		0.1647	0.6466	4.6	
90	0.0717	0.7895	3.6		0.0582	0.8110	3.4	
95	0.0151	1.0000	2.5		0.0110	1.0000	2.5	

WAJIR								
AGE	MALES				FEMALES			
	l(X)	nqx	e(x)	m(x)	l(x)	nqx	e(x)	m(x)
0	1.0000	0.0763	61.3	0.0810	1.0000	0.0635	62.3	0.0666
1	0.9237	0.0440	65.4	0.0113	0.9365	0.0390	65.5	0.0100
5	0.8830	0.0161	64.3	0.0032	0.9000	0.0143	64.1	0.0029
10	0.8688	0.0063	60.3	0.0013	0.8871	0.0056	60.0	0.0011
15	0.8633	0.0105	55.7	0.0021	0.8821	0.0101	55.3	0.0020
20	0.8543	0.0143	51.2	0.0029	0.8732	0.0194	50.8	0.0039
25	0.8421	0.0191	46.9	0.0039	0.8563	0.0264	46.8	0.0053
30	0.8260	0.0264	42.8	0.0053	0.8337	0.0293	43.0	0.0060
35	0.8042	0.0310	38.9	0.0063	0.8092	0.0306	39.2	0.0062
40	0.7793	0.0338	35.1	0.0069	0.7845	0.0316	35.4	0.0064
45	0.7530	0.0373	31.2	0.0076	0.7597	0.0339	31.4	0.0069
50	0.7248	0.0431	27.3	0.0088	0.7339	0.0391	27.4	0.0080
55	0.6936	0.0535	23.4	0.0110	0.7052	0.0497	23.5	0.0102
60	0.6565	0.0724	19.6	0.0150	0.6702	0.0695	19.6	0.0144
65	0.6089	0.1057	16.0	0.0223	0.6236	0.1042	15.8	0.0220
70	0.5446	0.1627	12.5	0.0354	0.5586	0.1637	12.4	0.0356
75	0.4560	0.2587	9.5	0.0594	0.4672	0.2643	9.3	0.0609
80	0.3380	0.4065	6.9	0.1443	0.3437	0.4190	6.8	0.1480
85	0.2006	0.5979	5.0		0.1997	0.6154	4.8	
90	0.0807	0.7740	3.6		0.0768	0.7898	3.6	
95	0.0182	1.0000	2.5		0.0161	1.0000	2.5	

Volume V: Analytical Report on Mortality

AGE	NYANZA							
	MALES				FEMALES			
	l(x)	nqx	e(x)	m(x)	l(x)	nqx	e(x)	m(x)
0	1.0000	0.1060	41.7	0.1152	1.0000	0.1172	48.0	0.1285
1	0.8940	0.1029	45.6	0.0272	0.8828	0.0791	53.3	0.0206
5	0.8020	0.0427	46.7	0.0087	0.8130	0.0296	53.7	0.0060
10	0.7678	0.0172	43.6	0.0035	0.7890	0.0116	50.3	0.0023
15	0.7545	0.0293	39.4	0.0059	0.7798	0.0208	45.8	0.0042
20	0.7324	0.0407	35.5	0.0083	0.7636	0.0398	41.7	0.0081
25	0.7026	0.0556	31.9	0.0114	0.7332	0.0535	38.4	0.0110
30	0.6635	0.0781	28.6	0.0162	0.6940	0.0587	35.4	0.0121
35	0.6117	0.0931	25.8	0.0195	0.6533	0.0605	32.5	0.0125
40	0.5548	0.1026	23.2	0.0216	0.6138	0.0615	29.4	0.0127
45	0.4979	0.1131	20.6	0.0240	0.5760	0.0649	26.1	0.0134
50	0.4416	0.1291	17.9	0.0276	0.5386	0.0733	22.8	0.0152
55	0.3846	0.1562	15.1	0.0339	0.4992	0.0906	19.4	0.0190
60	0.3245	0.2016	12.5	0.0448	0.4540	0.1220	16.1	0.0260
65	0.2591	0.2729	10.0	0.0632	0.3986	0.1735	13.0	0.0380
70	0.1884	0.3739	7.8	0.0920	0.3294	0.2525	10.1	0.0578
75	0.1179	0.5053	6.0	0.1352	0.2462	0.3682	7.7	0.0903
80	0.0583	0.6545	4.6	0.2173	0.1556	0.5194	5.8	0.1731
85	0.0202	0.8011	3.6		0.0748	0.6886	4.3	
90	0.0040	0.9099	3.0		0.0233	0.8322	3.3	
95	0.0004	1.0000	2.5		0.0039	1.0000	2.5	

AGE	GUCHA (KISII S.)							
	MALES				FEMALES			
	l(x)	nqx	e(x)	m(x)	l(x)	nqx	e(x)	m(x)
0	1.0000	0.0812	52.3	0.0864	1.0000	0.0993	61.3	0.1072
1	0.9188	0.0640	55.9	0.0166	0.9007	0.0452	67.0	0.0116
5	0.8600	0.0252	55.6	0.0051	0.8600	0.0156	66.1	0.0031
10	0.8383	0.0100	52.0	0.0020	0.8466	0.0060	62.1	0.0012
15	0.8299	0.0170	47.5	0.0034	0.8415	0.0106	57.5	0.0021
20	0.8158	0.0235	43.3	0.0048	0.8326	0.0199	53.1	0.0040
25	0.7967	0.0320	39.3	0.0065	0.8161	0.0262	49.1	0.0053
30	0.7712	0.0450	35.5	0.0092	0.7947	0.0281	45.3	0.0057
35	0.7365	0.0539	32.1	0.0111	0.7724	0.0284	41.6	0.0058
40	0.6967	0.0599	28.7	0.0123	0.7504	0.0285	37.7	0.0058
45	0.6550	0.0669	25.4	0.0138	0.7290	0.0299	33.8	0.0061
50	0.6112	0.0778	22.0	0.0162	0.7072	0.0336	29.7	0.0068
55	0.5637	0.0967	18.7	0.0203	0.6835	0.0417	25.7	0.0085
60	0.5092	0.1296	15.4	0.0277	0.6550	0.0568	21.7	0.0117
65	0.4432	0.1850	12.4	0.0408	0.6178	0.0830	17.8	0.0173
70	0.3612	0.2718	9.6	0.0629	0.5665	0.1271	14.2	0.0271
75	0.2630	0.3987	7.2	0.0996	0.4945	0.2023	10.9	0.0450
80	0.1582	0.5595	5.4	0.1859	0.3945	0.3250	8.1	0.1239
85	0.0697	0.7295	4.0		0.2663	0.5029	5.7	
90	0.0188	0.8639	3.2		0.1324	0.6928	4.0	
95	0.0026	1.0000	2.5		0.0407	1.0000	2.5	

AGE	HOMA BAY							
	MALES				FEMALES			
	l(x)	nqx	e(x)	m(x)	l(x)	nqx	e(x)	m(x)
0	1.0000	0.1444	35.9	0.1619	1.0000	0.1540	40.6	0.1741
1	0.8556	0.1363	40.9	0.0367	0.8460	0.1088	47.0	0.0288
5	0.7390	0.0560	43.1	0.0115	0.7540	0.0410	48.5	0.0084
10	0.6976	0.0225	40.5	0.0046	0.7231	0.0161	45.5	0.0032
15	0.6819	0.0379	36.4	0.0077	0.7114	0.0288	41.2	0.0058
20	0.6561	0.0521	32.7	0.0107	0.6910	0.0546	37.3	0.0112
25	0.6219	0.0702	29.4	0.0146	0.6532	0.0727	34.3	0.0151
30	0.5782	0.0967	26.4	0.0203	0.6057	0.0791	31.8	0.0165
35	0.5223	0.1130	24.0	0.0240	0.5578	0.0806	29.3	0.0168
40	0.4633	0.1220	21.7	0.0260	0.5129	0.0811	26.7	0.0169
45	0.4068	0.1319	19.4	0.0282	0.4713	0.0846	23.8	0.0177
50	0.3531	0.1477	16.9	0.0319	0.4314	0.0942	20.8	0.0198
55	0.3010	0.1749	14.4	0.0383	0.3908	0.1146	17.7	0.0243
60	0.2483	0.2209	12.0	0.0497	0.3460	0.1512	14.7	0.0327
65	0.1935	0.2920	9.7	0.0684	0.2937	0.2091	11.8	0.0467
70	0.1370	0.3908	7.6	0.0971	0.2323	0.2939	9.3	0.0689
75	0.0835	0.5176	5.9	0.1397	0.1640	0.4118	7.2	0.1037
80	0.0403	0.6617	4.6	0.2197	0.0965	0.5584	5.4	0.1844
85	0.0136	0.8046	3.6		0.0426	0.7178	4.1	
90	0.0027	0.9116	2.9		0.0120	0.8513	3.2	
95	0.0002	1.0000	2.5		0.0018	1.0000	2.5	

Kenya 1999 Population and Housing Census

KISII CENTRAL								
AGE	MALES				FEMALES			
	l(x)	nqx	e(x)	m(x)	l(x)	nqx	e(x)	m(x)
0	1.0000	0.0646	50.5	0.0681	1.0000	0.0754	60.0	0.0799
1	0.9352	0.0644	52.9	0.0167	0.9246	0.0450	63.8	0.0115
5	0.8750	0.0270	52.5	0.0055	0.8830	0.0164	62.8	0.0033
10	0.8514	0.0110	48.8	0.0022	0.8685	0.0064	58.8	0.0013
15	0.8421	0.0188	44.4	0.0038	0.8630	0.0115	54.1	0.0023
20	0.8262	0.0264	40.2	0.0054	0.8531	0.0220	49.7	0.0045
25	0.8044	0.0368	36.2	0.0075	0.8343	0.0297	45.8	0.0060
30	0.7748	0.0529	32.5	0.0109	0.8095	0.0328	42.1	0.0067
35	0.7338	0.0649	29.1	0.0134	0.7829	0.0340	38.5	0.0069
40	0.6862	0.0735	26.0	0.0153	0.7563	0.0349	34.7	0.0071
45	0.6357	0.0835	22.9	0.0174	0.7298	0.0373	30.9	0.0076
50	0.5826	0.0985	19.7	0.0207	0.7026	0.0427	27.0	0.0087
55	0.5253	0.1233	16.6	0.0263	0.6727	0.0538	23.1	0.0111
60	0.4605	0.1657	13.6	0.0361	0.6365	0.0746	19.2	0.0155
65	0.3842	0.2349	10.8	0.0532	0.5890	0.1107	15.6	0.0234
70	0.2939	0.3381	8.3	0.0814	0.5238	0.1712	12.2	0.0374
75	0.1946	0.4779	6.3	0.1256	0.4341	0.2715	9.2	0.0628
80	0.1016	0.6389	4.7	0.2122	0.3163	0.4227	6.7	0.1483
85	0.0367	0.7941	3.6		0.1826	0.6132	4.9	
90	0.0076	0.9067	3.0		0.0706	0.7847	3.6	
95	0.0007	1.0000	2.5		0.0152	1.0000	2.5	

KISUMU								
AGE	MALES				FEMALES			
	l(x)	nqx	e(x)	m(x)	l(x)	nqx	e(x)	m(x)
0	1.0000	0.1179	37.8	0.1293	1.0000	0.1291	43.2	0.1430
1	0.8821	0.1226	41.8	0.0328	0.8709	0.0963	48.6	0.0254
5	0.7740	0.0518	43.4	0.0106	0.7870	0.0368	49.6	0.0075
10	0.7339	0.0210	40.6	0.0043	0.7580	0.0145	46.4	0.0029
15	0.7184	0.0358	36.4	0.0073	0.7470	0.0261	42.0	0.0053
20	0.6927	0.0496	32.7	0.0102	0.7275	0.0500	38.1	0.0103
25	0.6584	0.0677	29.3	0.0140	0.6911	0.0674	34.9	0.0139
30	0.6138	0.0946	26.2	0.0199	0.6445	0.0741	32.3	0.0154
35	0.5557	0.1122	23.7	0.0238	0.5967	0.0763	29.7	0.0159
40	0.4934	0.1227	21.4	0.0261	0.5512	0.0775	26.9	0.0161
45	0.4329	0.1341	19.0	0.0287	0.5085	0.0815	24.0	0.0170
50	0.3749	0.1515	16.6	0.0328	0.4670	0.0915	20.9	0.0192
55	0.3181	0.1808	14.1	0.0398	0.4243	0.1122	17.7	0.0238
60	0.2606	0.2297	11.6	0.0519	0.3767	0.1494	14.7	0.0323
65	0.2007	0.3047	9.3	0.0719	0.3204	0.2086	11.8	0.0466
70	0.1396	0.4079	7.3	0.1025	0.2535	0.2958	9.2	0.0694
75	0.0826	0.5384	5.7	0.1473	0.1785	0.4174	7.1	0.1055
80	0.0381	0.6832	4.4	0.2280	0.1040	0.5676	5.3	0.1875
85	0.0121	0.8227	3.5		0.0450	0.7282	4.0	
90	0.0021	0.9234	2.9		0.0122	0.8598	3.2	
95	0.0002	1.0000	2.5		0.0017	1.0000	2.5	

KURIA								
AGE	MALES				FEMALES			
	l(x)	nqx	e(x)	m(x)	l(x)	nqx	e(x)	m(x)
0	1.0000	0.0751	49.8	0.0796	1.0000	0.0806	55.4	0.0858
1	0.9249	0.0691	52.8	0.0179	0.9194	0.0548	59.2	0.0141
5	0.8610	0.0283	52.6	0.0057	0.8690	0.0206	58.5	0.0042
10	0.8366	0.0114	49.1	0.0023	0.8511	0.0081	54.7	0.0016
15	0.8271	0.0195	44.6	0.0039	0.8442	0.0146	50.1	0.0029
20	0.8110	0.0272	40.5	0.0055	0.8319	0.0282	45.9	0.0057
25	0.7889	0.0375	36.5	0.0076	0.8085	0.0383	42.1	0.0078
30	0.7594	0.0533	32.8	0.0110	0.7775	0.0427	38.7	0.0087
35	0.7189	0.0647	29.6	0.0134	0.7443	0.0446	35.3	0.0091
40	0.6724	0.0725	26.4	0.0151	0.7111	0.0460	31.8	0.0094
45	0.6236	0.0817	23.3	0.0170	0.6783	0.0493	28.2	0.0101
50	0.5727	0.0954	20.1	0.0200	0.6449	0.0565	24.6	0.0116
55	0.5180	0.1187	17.0	0.0252	0.6085	0.0712	20.9	0.0148
60	0.4565	0.1585	14.0	0.0344	0.5652	0.0982	17.3	0.0207
65	0.3842	0.2238	11.1	0.0504	0.5097	0.1440	13.9	0.0310
70	0.2982	0.3220	8.6	0.0768	0.4363	0.2180	10.9	0.0489
75	0.2022	0.4573	6.5	0.1186	0.3412	0.3332	8.2	0.0800
80	0.1097	0.6171	4.9	0.2045	0.2275	0.4918	6.0	0.1662
85	0.0420	0.7758	3.7		0.1156	0.6732	4.4	
90	0.0094	0.8946	3.0		0.0378	0.8255	3.4	
95	0.0010	1.0000	2.5		0.0066	1.0000	2.5	

Volume V: Analytical Report on Mortality

MIGORI								
AGE	MALES				FEMALES			
	l(x)	nqx	e(x)	m(x)	l(x)	nqx	e(x)	m(x)
0	1.0000	0.1387	37.8	0.1547	1.0000	0.1481	42.8	0.1666
1	0.8613	0.1258	42.8	0.0337	0.8519	0.0997	49.2	0.0263
5	0.7530	0.0511	44.7	0.0105	0.7670	0.0371	50.4	0.0076
10	0.7145	0.0205	42.0	0.0041	0.7385	0.0145	47.3	0.0029
15	0.6999	0.0345	37.8	0.0070	0.7278	0.0260	42.9	0.0053
20	0.6757	0.0474	34.1	0.0097	0.7089	0.0493	39.0	0.0101
25	0.6437	0.0640	30.7	0.0132	0.6739	0.0656	35.9	0.0136
30	0.6025	0.0883	27.6	0.0185	0.6297	0.0712	33.3	0.0148
35	0.5493	0.1034	25.0	0.0218	0.5849	0.0727	30.6	0.0151
40	0.4925	0.1119	22.6	0.0237	0.5424	0.0732	27.8	0.0152
45	0.4374	0.1215	20.2	0.0259	0.5027	0.0764	24.8	0.0159
50	0.3842	0.1366	17.6	0.0293	0.4643	0.0853	21.7	0.0178
55	0.3317	0.1627	15.0	0.0354	0.4247	0.1042	18.5	0.0220
60	0.2778	0.2069	12.4	0.0462	0.3804	0.1382	15.3	0.0297
65	0.2203	0.2760	10.0	0.0640	0.3278	0.1928	12.4	0.0427
70	0.1595	0.3732	7.9	0.0918	0.2646	0.2739	9.7	0.0635
75	0.1000	0.4998	6.1	0.1333	0.1922	0.3892	7.5	0.0966
80	0.0500	0.6456	4.7	0.2138	0.1174	0.5360	5.6	0.1775
85	0.0177	0.7919	3.6		0.0545	0.6988	4.3	
90	0.0037	0.9034	3.0		0.0164	0.8376	3.3	
95	0.0004	1.0000	2.5		0.0027	1.0000	2.5	

NYAMIRA (KISII N.)								
AGE	MALES				FEMALES			
	l(x)	nqx	e(x)	m(x)	l(x)	nqx	e(x)	m(x)
0	1.0000	0.0235	59.1	0.0239	1.0000	0.0277	67.2	0.0283
1	0.9765	0.0302	59.6	0.0077	0.9723	0.0230	68.1	0.0058
5	0.9470	0.0138	57.4	0.0028	0.9500	0.0091	65.6	0.0018
10	0.9340	0.0057	53.1	0.0012	0.9414	0.0036	61.2	0.0007
15	0.9286	0.0101	48.4	0.0020	0.9379	0.0067	56.4	0.0013
20	0.9192	0.0147	43.9	0.0030	0.9317	0.0133	51.8	0.0027
25	0.9057	0.0213	39.5	0.0043	0.9192	0.0190	47.5	0.0038
30	0.8864	0.0324	35.3	0.0066	0.9018	0.0221	43.3	0.0045
35	0.8576	0.0423	31.4	0.0086	0.8819	0.0242	39.3	0.0049
40	0.8213	0.0510	27.7	0.0105	0.8605	0.0260	35.2	0.0053
45	0.7794	0.0616	24.0	0.0127	0.8382	0.0290	31.0	0.0059
50	0.7314	0.0772	20.5	0.0161	0.8138	0.0347	26.9	0.0071
55	0.6749	0.1031	17.0	0.0217	0.7856	0.0460	22.8	0.0094
60	0.6053	0.1484	13.6	0.0321	0.7495	0.0674	18.7	0.0140
65	0.5155	0.2262	10.6	0.0510	0.6989	0.1069	14.9	0.0226
70	0.3989	0.3478	7.9	0.0842	0.6243	0.1783	11.4	0.0392
75	0.2601	0.5132	5.8	0.1381	0.5130	0.3040	8.3	0.0717
80	0.1266	0.6910	4.3	0.2323	0.3570	0.4930	5.9	0.1698
85	0.0391	0.8420	3.3		0.1810	0.7047	4.2	
90	0.0062	0.9373	2.8		0.0535	0.8604	3.2	
95	0.0004	1.0000	2.5		0.0075	1.0000	2.5	

RACHUONYO								
AGE	MALES				FEMALES			
	l(x)	nqx	e(x)	m(x)	l(X)	nqx	e(x)	m(x)
0	1.0000	0.1062	39.4	0.1154	1.0000	0.1150	44.4	0.1259
1	0.8938	0.1128	43.0	0.0300	0.8850	0.0904	49.1	0.0237
5	0.7930	0.0480	44.3	0.0098	0.8050	0.0351	49.8	0.0071
10	0.7549	0.0195	41.4	0.0039	0.7768	0.0139	46.5	0.0028
15	0.7402	0.0333	37.1	0.0068	0.7660	0.0251	42.1	0.0051
20	0.7155	0.0464	33.3	0.0095	0.7468	0.0483	38.1	0.0099
25	0.6823	0.0637	29.8	0.0132	0.7107	0.0656	34.9	0.0136
30	0.6388	0.0896	26.7	0.0188	0.6640	0.0728	32.2	0.0151
35	0.5815	0.1071	24.1	0.0226	0.6157	0.0756	29.6	0.0157
40	0.5193	0.1179	21.7	0.0251	0.5692	0.0772	26.8	0.0161
45	0.4580	0.1297	19.2	0.0277	0.5252	0.0817	23.8	0.0170
50	0.3986	0.1475	16.7	0.0319	0.4823	0.0921	20.7	0.0193
55	0.3398	0.1772	14.2	0.0389	0.4379	0.1136	17.5	0.0241
60	0.2796	0.2265	11.7	0.0511	0.3882	0.1519	14.5	0.0329
65	0.2163	0.3023	9.4	0.0712	0.3292	0.2130	11.6	0.0477
70	0.1509	0.4069	7.3	0.1022	0.2591	0.3031	9.1	0.0714
75	0.0895	0.5390	5.7	0.1476	0.1806	0.4279	6.9	0.1089
80	0.0413	0.6850	4.4	0.2287	0.1033	0.5804	5.2	0.1918
85	0.0130	0.8247	3.4		0.0433	0.7406	4.0	
90	0.0023	0.9247	2.9		0.0112	0.8691	3.2	
95	0.0002	1.0000	2.5		0.0015	1.0000	2.5	

SIAYA

AGE	MALES				FEMALES			
	l(x)	nqx	e(x)	m(x)	l(x)	nqx	e(x)	m(x)
0	1.0000	0.1287	36.9	0.1425	1.0000	0.1425	43.0	0.1596
1	0.8713	0.1289	41.3	0.0346	0.8575	0.0985	49.1	0.0260
5	0.7590	0.0538	43.2	0.0111	0.7730	0.0370	50.2	0.0075
10	0.7181	0.0218	40.5	0.0044	0.7444	0.0145	47.1	0.0029
15	0.7025	0.0369	36.3	0.0075	0.7336	0.0260	42.7	0.0053
20	0.6766	0.0509	32.6	0.0105	0.7146	0.0493	38.8	0.0101
25	0.6421	0.0691	29.2	0.0143	0.6793	0.0659	35.7	0.0136
30	0.5977	0.0960	26.2	0.0202	0.6346	0.0718	33.0	0.0149
35	0.5403	0.1131	23.7	0.0240	0.5890	0.0734	30.4	0.0152
40	0.4792	0.1230	21.5	0.0262	0.5457	0.0741	27.6	0.0154
45	0.4203	0.1338	19.1	0.0287	0.5053	0.0776	24.6	0.0161
50	0.3640	0.1505	16.7	0.0326	0.4661	0.0867	21.5	0.0181
55	0.3093	0.1790	14.2	0.0393	0.4256	0.1061	18.3	0.0224
60	0.2539	0.2268	11.7	0.0511	0.3805	0.1409	15.2	0.0303
65	0.1963	0.3002	9.5	0.0707	0.3269	0.1966	12.2	0.0436
70	0.1374	0.4017	7.4	0.1005	0.2626	0.2793	9.6	0.0649
75	0.0822	0.5306	5.8	0.1444	0.1893	0.3963	7.4	0.0988
80	0.0386	0.6751	4.4	0.2248	0.1143	0.5441	5.6	0.1801
85	0.0125	0.8159	3.5		0.0521	0.7065	4.2	
90	0.0023	0.9190	2.9		0.0153	0.8436	3.3	
95	0.0002	1.0000	2.5		0.0024	1.0000	2.5	

SUBA

AGE	MALES				FEMALES			
	l(x)	nqx	e(x)	m(x)	l(x)	nqx	e(x)	m(x)
0	1.0000	0.1410	36.5	0.1577	1.0000	0.1527	42.0	0.1724
1	0.8590	0.1327	41.5	0.0357	0.8473	0.1031	48.5	0.0272
5	0.7450	0.0544	43.5	0.0112	0.7600	0.0384	49.9	0.0078
10	0.7044	0.0219	40.9	0.0044	0.7308	0.0150	46.8	0.0030
15	0.6890	0.0369	36.7	0.0075	0.7198	0.0269	42.5	0.0054
20	0.6636	0.0507	33.1	0.0104	0.7005	0.0509	38.6	0.0104
25	0.6299	0.0685	29.7	0.0142	0.6648	0.0677	35.5	0.0140
30	0.5868	0.0944	26.7	0.0198	0.6198	0.0734	32.9	0.0152
35	0.5314	0.1105	24.2	0.0234	0.5743	0.0748	30.3	0.0155
40	0.4726	0.1195	21.9	0.0254	0.5314	0.0752	27.6	0.0156
45	0.4162	0.1294	19.5	0.0277	0.4914	0.0785	24.6	0.0163
50	0.3623	0.1451	17.1	0.0313	0.4528	0.0875	21.5	0.0183
55	0.3097	0.1723	14.6	0.0377	0.4132	0.1066	18.3	0.0225
60	0.2564	0.2180	12.1	0.0489	0.3692	0.1411	15.2	0.0304
65	0.2005	0.2889	9.7	0.0675	0.3171	0.1962	12.3	0.0435
70	0.1426	0.3876	7.7	0.0962	0.2549	0.2779	9.7	0.0645
75	0.0873	0.5147	5.9	0.1386	0.1841	0.3933	7.4	0.0979
80	0.0424	0.6592	4.6	0.2188	0.1117	0.5396	5.6	0.1786
85	0.0144	0.8028	3.6		0.0514	0.7014	4.2	
90	0.0028	0.9105	2.9		0.0154	0.8394	3.3	
95	0.0003	1.0000	2.5		0.0025	1.0000	2.5	

BONDO

AGE	MALES				FEMALES			
	l(x)	nqx	e(x)	m(x)	l(x)	nqx	e(x)	m(x)
0	1.0000	0.1086	38.3	0.1182	1.0000	0.1205	43.9	0.1325
1	0.8914	0.1182	41.9	0.0315	0.8795	0.0927	48.9	0.0244
5	0.7860	0.0507	43.3	0.0104	0.7980	0.0358	49.7	0.0073
10	0.7461	0.0207	40.5	0.0042	0.7695	0.0142	46.4	0.0029
15	0.7307	0.0353	36.3	0.0072	0.7586	0.0255	42.1	0.0052
20	0.7050	0.0491	32.5	0.0101	0.7392	0.0490	38.1	0.0100
25	0.6703	0.0674	29.1	0.0140	0.7030	0.0663	34.9	0.0137
30	0.6251	0.0948	26.0	0.0199	0.6564	0.0733	32.3	0.0152
35	0.5659	0.1131	23.4	0.0240	0.6083	0.0758	29.6	0.0158
40	0.5019	0.1243	21.1	0.0265	0.5622	0.0773	26.8	0.0161
45	0.4395	0.1364	18.8	0.0293	0.5187	0.0816	23.9	0.0170
50	0.3796	0.1546	16.3	0.0335	0.4764	0.0918	20.8	0.0193
55	0.3209	0.1850	13.8	0.0408	0.4327	0.1130	17.6	0.0240
60	0.2615	0.2354	11.4	0.0534	0.3838	0.1508	14.5	0.0326
65	0.2000	0.3124	9.2	0.0740	0.3259	0.2112	11.7	0.0472
70	0.1375	0.4176	7.2	0.1056	0.2571	0.3001	9.1	0.0706
75	0.0801	0.5494	5.6	0.1515	0.1799	0.4236	7.0	0.1075
80	0.0361	0.6940	4.3	0.2322	0.1037	0.5751	5.3	0.1901
85	0.0110	0.8314	3.4		0.0441	0.7355	4.0	
90	0.0019	0.9288	2.9		0.0117	0.8653	3.2	
95	0.0001	1.0000	2.5		0.0016	1.0000	2.5	

Volume V: Analytical Report on Mortality

AGE	NYANDO							
	MALES				FEMALES			
	l(x)	nqx	e(x)	m(x)	l(x)	nqx	e(x)	m(x)
0	1.0000	0.1109	37.7	0.1210	1.0000	0.1213	42.9	0.1335
1	0.8891	0.1216	41.4	0.0325	0.8787	0.0964	47.8	0.0254
5	0.7810	0.0522	42.8	0.0107	0.7940	0.0375	48.7	0.0076
10	0.7402	0.0213	40.1	0.0043	0.7642	0.0149	45.5	0.0030
15	0.7244	0.0363	35.9	0.0074	0.7529	0.0268	41.1	0.0054
20	0.6981	0.0506	32.1	0.0104	0.7327	0.0516	37.2	0.0106
25	0.6628	0.0694	28.7	0.0144	0.6949	0.0699	34.1	0.0145
30	0.6168	0.0974	25.7	0.0205	0.6463	0.0774	31.5	0.0161
35	0.5568	0.1160	23.2	0.0246	0.5963	0.0802	28.9	0.0167
40	0.4922	0.1273	20.9	0.0272	0.5485	0.0817	26.2	0.0170
45	0.4295	0.1395	18.6	0.0300	0.5037	0.0862	23.3	0.0180
50	0.3696	0.1578	16.2	0.0343	0.4603	0.0970	20.3	0.0204
55	0.3113	0.1885	13.7	0.0416	0.4156	0.1191	17.2	0.0253
60	0.2526	0.2391	11.3	0.0543	0.3661	0.1585	14.2	0.0344
65	0.1922	0.3164	9.1	0.0752	0.3081	0.2210	11.4	0.0497
70	0.1314	0.4217	7.1	0.1069	0.2400	0.3121	8.9	0.0739
75	0.0760	0.5531	5.5	0.1529	0.1651	0.4370	6.8	0.1118
80	0.0340	0.6971	4.3	0.2334	0.0930	0.5882	5.1	0.1943
85	0.0103	0.8337	3.4		0.0383	0.7463	3.9	
90	0.0017	0.9302	2.8		0.0097	0.8728	3.1	
95	0.0001	1.0000	2.5		0.0012	1.0000	2.5	

AGE	RIFT VALLEY							
	MALES				FEMALES			
	l(x)	nqx	e(x)	m(x)	l(x)	nqx	e(x)	m(x)
0	1.0000	0.0484	59.1	0.0502	1.0000	0.0534	66.4	0.0557
1	0.9516	0.0416	61.1	0.0106	0.9466	0.0312	69.1	0.0079
5	0.9120	0.0168	59.6	0.0034	0.9170	0.0113	67.2	0.0023
10	0.8967	0.0067	55.6	0.0014	0.9066	0.0044	63.0	0.0009
15	0.8906	0.0115	51.0	0.0023	0.9026	0.0079	58.3	0.0016
20	0.8804	0.0161	46.6	0.0033	0.8954	0.0153	53.7	0.0031
25	0.8661	0.0224	42.3	0.0045	0.8817	0.0208	49.5	0.0042
30	0.8468	0.0321	38.2	0.0065	0.8634	0.0230	45.5	0.0047
35	0.8195	0.0395	34.4	0.0080	0.8435	0.0240	41.5	0.0049
40	0.7872	0.0449	30.7	0.0092	0.8233	0.0248	37.5	0.0050
45	0.7519	0.0515	27.0	0.0106	0.8028	0.0267	33.4	0.0054
50	0.7132	0.0615	23.3	0.0127	0.7814	0.0308	29.2	0.0063
55	0.6693	0.0787	19.7	0.0164	0.7573	0.0393	25.1	0.0080
60	0.6166	0.1092	16.2	0.0231	0.7276	0.0553	21.0	0.0114
65	0.5493	0.1626	12.8	0.0354	0.6874	0.0839	17.1	0.0175
70	0.4600	0.2506	9.9	0.0573	0.6297	0.1344	13.4	0.0288
75	0.3447	0.3857	7.3	0.0956	0.5451	0.2241	10.1	0.0505
80	0.2118	0.5609	5.3	0.1875	0.4229	0.3725	7.3	0.1374
85	0.0930	0.7413	4.0		0.2654	0.5763	5.1	
90	0.0241	0.8756	3.1		0.1124	0.7668	3.7	
95	0.0030	1.0000	2.5		0.0262	1.0000	2.5	

AGE	BARINGO							
	MALES				FEMALES			
	l(x)	nqx	e(x)	m(x)	l(x)	nqx	e(x)	m(x)
0	1.0000	0.0595	58.3	0.0623	1.0000	0.0650	64.9	0.0683
1	0.9405	0.0463	60.9	0.0119	0.9350	0.0353	68.4	0.0090
5	0.8970	0.0182	59.8	0.0037	0.9020	0.0126	66.8	0.0025
10	0.8807	0.0072	55.9	0.0015	0.8906	0.0049	62.6	0.0010
15	0.8743	0.0123	51.3	0.0025	0.8862	0.0088	57.9	0.0018
20	0.8636	0.0171	46.9	0.0034	0.8785	0.0168	53.4	0.0034
25	0.8489	0.0234	42.6	0.0047	0.8637	0.0225	49.3	0.0046
30	0.8290	0.0331	38.6	0.0067	0.8443	0.0247	45.4	0.0050
35	0.8015	0.0401	34.8	0.0082	0.8234	0.0256	41.4	0.0052
40	0.7694	0.0450	31.2	0.0092	0.8024	0.0262	37.5	0.0053
45	0.7348	0.0509	27.5	0.0104	0.7814	0.0279	33.4	0.0057
50	0.6974	0.0601	23.9	0.0124	0.7596	0.0319	29.3	0.0065
55	0.6555	0.0759	20.2	0.0158	0.7353	0.0404	25.2	0.0082
60	0.6057	0.1042	16.7	0.0220	0.7056	0.0563	21.1	0.0116
65	0.5426	0.1533	13.3	0.0332	0.6659	0.0844	17.2	0.0176
70	0.4594	0.2344	10.3	0.0531	0.6097	0.1331	13.6	0.0285
75	0.3517	0.3606	7.7	0.0880	0.5285	0.2186	10.3	0.0491
80	0.2249	0.5297	5.6	0.1778	0.4130	0.3592	7.5	0.1335
85	0.1058	0.7125	4.1		0.2646	0.5555	5.3	
90	0.0304	0.8555	3.2		0.1176	0.7466	3.8	
95	0.0044	1.0000	2.5		0.0298	1.0000	2.5	

Kenya 1999 Population and Housing Census

AGE	BOMET							
	MALES				FEMALES			
	l(x)	nqx	e(x)	m(x)	l(x)	nqx	e(x)	m(x)
0	1.0000	0.0327	62.2	0.0335	1.0000	0.0367	70.1	0.0378
1	0.9673	0.0313	63.3	0.0080	0.9633	0.0231	71.7	0.0058
5	0.9370	0.0130	61.3	0.0026	0.9410	0.0085	69.4	0.0017
10	0.9248	0.0053	57.0	0.0011	0.9330	0.0033	65.0	0.0007
15	0.9199	0.0091	52.3	0.0018	0.9298	0.0061	60.2	0.0012
20	0.9115	0.0129	47.8	0.0026	0.9242	0.0118	55.5	0.0024
25	0.8997	0.0182	43.4	0.0037	0.9133	0.0162	51.2	0.0033
30	0.8834	0.0266	39.1	0.0054	0.8986	0.0182	47.0	0.0037
35	0.8599	0.0333	35.1	0.0068	0.8822	0.0192	42.8	0.0039
40	0.8312	0.0388	31.3	0.0079	0.8653	0.0201	38.6	0.0041
45	0.7990	0.0454	27.4	0.0093	0.8479	0.0219	34.3	0.0044
50	0.7628	0.0554	23.6	0.0114	0.8294	0.0255	30.0	0.0052
55	0.7205	0.0725	19.8	0.0150	0.8082	0.0330	25.7	0.0067
60	0.6683	0.1032	16.2	0.0218	0.7815	0.0474	21.5	0.0097
65	0.5994	0.1581	12.8	0.0343	0.7445	0.0736	17.5	0.0153
70	0.5046	0.2512	9.7	0.0574	0.6897	0.1215	13.7	0.0259
75	0.3779	0.3966	7.1	0.0990	0.6059	0.2109	10.2	0.0472
80	0.2280	0.5831	5.1	0.1951	0.4781	0.3660	7.3	0.1374
85	0.0951	0.7659	3.8		0.3031	0.5840	5.0	
90	0.0223	0.8935	3.0		0.1261	0.7821	3.6	
95	0.0024	1.0000	2.5		0.0275	1.0000	2.5	

AGE	KEIYO							
	MALES				FEMALES			
	l(x)	nqx	e(x)	m(x)	l(x)	nqx	e(x)	m(x)
0	1.0000	0.0304	62.8	0.0311	1.0000	0.0332	69.6	0.0341
1	0.9696	0.0295	63.8	0.0075	0.9668	0.0225	71.0	0.0057
5	0.9410	0.0123	61.7	0.0025	0.9450	0.0085	68.6	0.0017
10	0.9294	0.0050	57.4	0.0010	0.9370	0.0033	64.2	0.0007
15	0.9247	0.0087	52.7	0.0017	0.9338	0.0061	59.4	0.0012
20	0.9167	0.0123	48.1	0.0025	0.9282	0.0119	54.7	0.0024
25	0.9055	0.0173	43.7	0.0035	0.9172	0.0165	50.4	0.0033
30	0.8898	0.0254	39.4	0.0052	0.9021	0.0187	46.2	0.0038
35	0.8672	0.0320	35.4	0.0065	0.8852	0.0200	42.0	0.0040
40	0.8394	0.0373	31.5	0.0076	0.8675	0.0210	37.8	0.0043
45	0.8081	0.0438	27.6	0.0090	0.8493	0.0230	33.6	0.0047
50	0.7727	0.0537	23.7	0.0110	0.8297	0.0271	29.3	0.0055
55	0.7312	0.0706	19.9	0.0146	0.8072	0.0353	25.0	0.0072
60	0.6796	0.1010	16.3	0.0213	0.7787	0.0510	20.9	0.0105
65	0.6110	0.1556	12.8	0.0337	0.7390	0.0798	16.9	0.0166
70	0.5159	0.2490	9.7	0.0569	0.6800	0.1328	13.1	0.0284
75	0.3874	0.3960	7.1	0.0988	0.5898	0.2309	9.7	0.0522
80	0.2340	0.5848	5.1	0.1958	0.4536	0.3967	6.9	0.1450
85	0.0972	0.7687	3.8		0.2737	0.6175	4.8	
90	0.0225	0.8957	3.0		0.1047	0.8059	3.5	
95	0.0023	1.0000	2.5		0.0203	1.0000	2.5	

AGE	KAJIADO							
	MALES				FEMALES			
	l(x)	nqx	e(x)	m(x)	l(x)	nqx	e(x)	m(x)
0	1.0000	0.0459	60.3	0.0475	1.0000	0.0499	67.1	0.0519
1	0.9541	0.0389	62.2	0.0099	0.9501	0.0296	69.6	0.0075
5	0.9170	0.0157	60.6	0.0032	0.9220	0.0108	67.7	0.0022
10	0.9026	0.0063	56.5	0.0013	0.9121	0.0042	63.4	0.0008
15	0.8970	0.0107	51.9	0.0022	0.9082	0.0076	58.6	0.0015
20	0.8874	0.0150	47.4	0.0030	0.9014	0.0146	54.1	0.0029
25	0.8740	0.0208	43.1	0.0042	0.8882	0.0198	49.8	0.0040
30	0.8558	0.0299	38.9	0.0061	0.8706	0.0221	45.8	0.0045
35	0.8303	0.0367	35.1	0.0075	0.8514	0.0231	41.8	0.0047
40	0.7998	0.0418	31.3	0.0085	0.8318	0.0239	37.7	0.0048
45	0.7663	0.0480	27.6	0.0098	0.8119	0.0257	33.5	0.0052
50	0.7296	0.0574	23.8	0.0118	0.7910	0.0298	29.4	0.0060
55	0.6877	0.0737	20.1	0.0153	0.7675	0.0381	25.2	0.0078
60	0.6370	0.1027	16.5	0.0217	0.7383	0.0538	21.1	0.0110
65	0.5716	0.1538	13.1	0.0333	0.6986	0.0819	17.1	0.0171
70	0.4836	0.2394	10.1	0.0544	0.6413	0.1319	13.4	0.0283
75	0.3679	0.3732	7.5	0.0918	0.5567	0.2217	10.1	0.0499
80	0.2306	0.5502	5.4	0.1844	0.4333	0.3713	7.3	0.1374
85	0.1037	0.7345	4.0		0.2724	0.5776	5.1	
90	0.0275	0.8720	3.1		0.1151	0.7695	3.7	
95	0.0035	1.0000	2.5		0.0265	1.0000	2.5	

Volume V: Analytical Report on Mortality

AGE	KERICHO							
	MALES				FEMALES			
	l(x)	nqx	e(x)	m(x)	l(x)	nqx	e(x)	m(x)
0	1.0000	0.0597	54.8	0.0625	1.0000	0.0644	62.5	0.0677
1	0.9403	0.0440	57.2	0.0112	0.9356	0.0327	65.8	0.0083
5	0.8990	0.0091	55.8	0.0018	0.9050	0.0060	63.9	0.0012
10	0.8908	0.0062	51.3	0.0012	0.8996	0.0039	59.3	0.0008
15	0.8853	0.0107	46.6	0.0021	0.8961	0.0101	54.5	0.0020
20	0.8759	0.0170	42.1	0.0034	0.8870	0.0286	50.0	0.0058
25	0.8610	0.0375	37.7	0.0076	0.8616	0.0412	46.4	0.0084
30	0.8287	0.0608	34.1	0.0125	0.8261	0.0445	43.3	0.0091
35	0.7783	0.0731	31.2	0.0152	0.7894	0.0436	40.2	0.0089
40	0.7213	0.0779	28.4	0.0162	0.7550	0.0411	37.0	0.0084
45	0.6652	0.0805	25.6	0.0168	0.7240	0.0384	33.4	0.0078
50	0.6116	0.0841	22.6	0.0175	0.6961	0.0369	29.7	0.0075
55	0.5602	0.0925	19.5	0.0194	0.6705	0.0391	25.7	0.0080
60	0.5084	0.1131	16.2	0.0240	0.6443	0.0495	21.6	0.0101
65	0.4509	0.1585	13.0	0.0344	0.6124	0.0731	17.6	0.0152
70	0.3794	0.2426	9.9	0.0552	0.5677	0.1190	13.8	0.0253
75	0.2874	0.3801	7.3	0.0939	0.5001	0.2061	10.4	0.0460
80	0.1781	0.5639	5.3	0.1892	0.3970	0.3576	7.4	0.1350
85	0.0777	0.7512	3.9		0.2550	0.5712	5.1	
90	0.0193	0.8850	3.1		0.1094	0.7687	3.7	
95	0.0022	1.0000	2.5		0.0253	1.0000	2.5	

AGE	LAIKIPIA							
	MALES				FEMALES			
	l(x)	nqx	e(x)	m(x)	l(x)	nqx	e(x)	m(x)
0	1.0000	0.0396	61.6	0.0408	1.0000	0.0433	68.1	0.0448
1	0.9604	0.0348	63.1	0.0089	0.9567	0.0268	70.2	0.0068
5	0.9270	0.0142	61.3	0.0029	0.9310	0.0099	68.1	0.0020
10	0.9139	0.0057	57.2	0.0011	0.9218	0.0039	63.7	0.0008
15	0.9087	0.0098	52.5	0.0020	0.9182	0.0070	59.0	0.0014
20	0.8998	0.0137	48.0	0.0028	0.9118	0.0135	54.4	0.0027
25	0.8875	0.0191	43.6	0.0039	0.8995	0.0185	50.1	0.0037
30	0.8705	0.0276	39.4	0.0056	0.8829	0.0207	46.0	0.0042
35	0.8464	0.0342	35.4	0.0070	0.8646	0.0218	41.9	0.0044
40	0.8175	0.0392	31.6	0.0080	0.8457	0.0227	37.8	0.0046
45	0.7854	0.0454	27.8	0.0093	0.8265	0.0246	33.6	0.0050
50	0.7498	0.0547	24.0	0.0113	0.8061	0.0286	29.4	0.0058
55	0.7088	0.0708	20.2	0.0147	0.7830	0.0368	25.2	0.0075
60	0.6586	0.0996	16.6	0.0210	0.7542	0.0524	21.1	0.0108
65	0.5930	0.1509	13.2	0.0326	0.7147	0.0807	17.1	0.0168
70	0.5035	0.2377	10.1	0.0540	0.6570	0.1313	13.4	0.0281
75	0.3838	0.3750	7.4	0.0923	0.5707	0.2234	10.0	0.0503
80	0.2399	0.5564	5.4	0.1866	0.4432	0.3780	7.2	0.1396
85	0.1064	0.7426	3.9		0.2757	0.5896	5.0	
90	0.0274	0.8782	3.1		0.1131	0.7814	3.6	
95	0.0033	1.0000	2.5		0.0247	1.0000	2.5	

AGE	MARAKWET							
	MALES				FEMALES			
	l(x)	nqx	e(x)	m(x)	l(x)	nqx	e(x)	m(x)
0	1.0000	0.0381	63.2	0.0392	1.0000	0.0400	68.0	0.0412
1	0.9619	0.0321	64.7	0.0082	0.9600	0.0261	69.9	0.0066
5	0.9310	0.0129	62.8	0.0026	0.9350	0.0097	67.7	0.0020
10	0.9190	0.0052	58.6	0.0010	0.9259	0.0038	63.3	0.0008
15	0.9142	0.0089	53.9	0.0018	0.9224	0.0069	58.6	0.0014
20	0.9061	0.0124	49.3	0.0025	0.9160	0.0135	53.9	0.0027
25	0.8949	0.0172	44.9	0.0035	0.9037	0.0185	49.6	0.0037
30	0.8795	0.0248	40.7	0.0050	0.8869	0.0209	45.5	0.0042
35	0.8577	0.0306	36.6	0.0062	0.8683	0.0222	41.5	0.0045
40	0.8314	0.0350	32.7	0.0071	0.8491	0.0232	37.3	0.0047
45	0.8023	0.0404	28.8	0.0083	0.8294	0.0253	33.2	0.0051
50	0.7698	0.0488	24.9	0.0100	0.8084	0.0295	29.0	0.0060
55	0.7323	0.0631	21.1	0.0130	0.7846	0.0382	24.8	0.0078
60	0.6860	0.0891	17.3	0.0186	0.7546	0.0547	20.6	0.0112
65	0.6249	0.1358	13.8	0.0291	0.7133	0.0845	16.7	0.0177
70	0.5400	0.2167	10.5	0.0486	0.6530	0.1384	13.0	0.0297
75	0.4230	0.3488	7.8	0.0845	0.5627	0.2360	9.7	0.0535
80	0.2754	0.5312	5.6	0.1794	0.4299	0.3975	6.9	0.1445
85	0.1291	0.7249	4.1		0.2590	0.6113	4.8	
90	0.0355	0.8682	3.2		0.1007	0.7976	3.5	
95	0.0047	1.0000	2.5		0.0204	1.0000	2.5	

Kenya 1999 Population and Housing Census

NAKURU								
AGE	MALES				FEMALES			
	l(x)	nqx	e(x)	m(x)	l(x)	nqx	e(x)	m(x)
0	1.0000	0.0363	52.9	0.0373	1.0000	0.0482	58.2	0.0500
1	0.9637	0.0526	53.9	0.0135	0.9518	0.0355	60.2	0.0091
5	0.9130	0.0265	52.8	0.0054	0.9180	0.0074	58.3	0.0015
10	0.8888	0.0114	49.2	0.0023	0.9112	0.0050	53.7	0.0010
15	0.8787	0.0201	44.7	0.0041	0.9067	0.0086	49.0	0.0017
20	0.8610	0.0288	40.6	0.0059	0.8988	0.0138	44.4	0.0028
25	0.8362	0.0317	36.7	0.0064	0.8864	0.0307	40.0	0.0062
30	0.8097	0.0352	32.8	0.0072	0.8592	0.0502	36.2	0.0103
35	0.7812	0.0420	28.9	0.0086	0.8161	0.0610	32.9	0.0126
40	0.7484	0.0525	25.1	0.0108	0.7663	0.0658	29.9	0.0136
45	0.7091	0.0704	21.3	0.0146	0.7159	0.0687	26.9	0.0142
50	0.6591	0.0993	17.8	0.0209	0.6667	0.0726	23.7	0.0151
55	0.5937	0.1415	14.4	0.0304	0.6183	0.0808	20.3	0.0168
60	0.5097	0.2140	11.4	0.0479	0.5684	0.1002	16.9	0.0211
65	0.4006	0.3084	8.8	0.0729	0.5114	0.1427	13.5	0.0307
70	0.2771	0.4465	6.7	0.1150	0.4384	0.2235	10.3	0.0503
75	0.1534	0.6025	5.0	0.1724	0.3404	0.3603	7.5	0.0879
80	0.0610	0.7523	3.9	0.2564	0.2178	0.5495	5.4	0.1854
85	0.0151	0.8759	3.1		0.0981	0.7449	3.9	
90	0.0019	0.9537	2.7		0.0250	0.8829	3.1	
95	0.0001	1.0000	2.5		0.0029	1.0000	2.5	

NANDI								
AGE	MALES				FEMALES			
	l(x)	nqx	e(x)	m(x)	l(x)	nqx	e(x)	m(x)
0	1.0000	0.0536	56.6	0.0558	1.0000	0.0594	63.7	0.0622
1	0.9464	0.0522	58.8	0.0134	0.9406	0.0400	66.7	0.0102
5	0.8970	0.0232	58.0	0.0047	0.9030	0.0161	65.4	0.0032
10	0.8762	0.0095	54.3	0.0019	0.8885	0.0064	61.4	0.0013
15	0.8678	0.0164	49.8	0.0033	0.8827	0.0108	56.8	0.0022
20	0.8536	0.0227	45.6	0.0046	0.8732	0.0146	52.4	0.0029
25	0.8342	0.0241	41.6	0.0049	0.8604	0.0151	48.1	0.0030
30	0.8141	0.0259	37.5	0.0052	0.8474	0.0159	43.8	0.0032
35	0.7930	0.0300	33.5	0.0061	0.8340	0.0180	39.5	0.0036
40	0.7692	0.0364	29.4	0.0074	0.8190	0.0214	35.2	0.0043
45	0.7412	0.0475	25.4	0.0097	0.8015	0.0273	30.9	0.0055
50	0.7060	0.0654	21.6	0.0135	0.7796	0.0369	26.7	0.0075
55	0.6599	0.0915	17.9	0.0192	0.7508	0.0509	22.6	0.0104
60	0.5995	0.1380	14.5	0.0296	0.7126	0.0763	18.7	0.0159
65	0.5168	0.2031	11.4	0.0452	0.6582	0.1136	15.1	0.0241
70	0.4118	0.3116	8.7	0.0738	0.5834	0.1824	11.7	0.0401
75	0.2835	0.4591	6.4	0.1192	0.4770	0.2947	8.7	0.0691
80	0.1534	0.6288	4.8	0.2089	0.3364	0.4600	6.3	0.1588
85	0.0569	0.7884	3.7		0.1817	0.6556	4.5	
90	0.0120	0.9028	3.0		0.0626	0.8185	3.4	
95	0.0012	1.0000	2.5		0.0114	1.0000	2.5	

NAROK								
AGE	MALES				FEMALES			
	l(x)	nqx	e(x)	m(x)	l(x)	nqx	e(x)	m(x)
0	1.0000	0.0474	59.5	0.0491	1.0000	0.0538	67.6	0.0561
1	0.9526	0.0406	61.5	0.0104	0.9462	0.0298	70.4	0.0076
5	0.9140	0.0164	60.0	0.0033	0.9180	0.0107	68.5	0.0021
10	0.8990	0.0066	56.0	0.0013	0.9082	0.0041	64.2	0.0008
15	0.8931	0.0112	51.3	0.0023	0.9044	0.0074	59.5	0.0015
20	0.8831	0.0157	46.9	0.0032	0.8977	0.0143	54.9	0.0029
25	0.8692	0.0218	42.6	0.0044	0.8849	0.0192	50.6	0.0039
30	0.8503	0.0313	38.5	0.0064	0.8679	0.0212	46.6	0.0043
35	0.8237	0.0384	34.6	0.0078	0.8494	0.0221	42.5	0.0045
40	0.7920	0.0438	30.9	0.0089	0.8307	0.0227	38.4	0.0046
45	0.7574	0.0502	27.2	0.0103	0.8118	0.0243	34.3	0.0049
50	0.7194	0.0600	23.5	0.0124	0.7921	0.0280	30.1	0.0057
55	0.6762	0.0769	19.9	0.0160	0.7699	0.0356	25.9	0.0072
60	0.6242	0.1069	16.3	0.0226	0.7425	0.0500	21.7	0.0103
65	0.5575	0.1594	12.9	0.0347	0.7054	0.0758	17.7	0.0158
70	0.4686	0.2466	9.9	0.0563	0.6520	0.1214	14.0	0.0259
75	0.3531	0.3815	7.4	0.0943	0.5728	0.2039	10.6	0.0454
80	0.2184	0.5574	5.4	0.1865	0.4560	0.3444	7.6	0.1309
85	0.0967	0.7392	4.0		0.2990	0.5468	5.3	
90	0.0252	0.8745	3.1		0.1355	0.7456	3.8	
95	0.0032	1.0000	2.5		0.0345	1.0000	2.5	

Volume V: Analytical Report on Mortality

SAMBURU								
AGE	MALES				FEMALES			
	l(x)	nx	e(x)	m(x)	l(x)	nx	e(x)	m(x)
0	1.0000	0.0494	58.0	0.0513	1.0000	0.0521	63.4	0.0542
1	0.9506	0.0479	60.0	0.0123	0.9479	0.0389	65.8	0.0099
5	0.9050	0.0213	59.0	0.0043	0.9110	0.0161	64.4	0.0033
10	0.8857	0.0088	55.2	0.0018	0.8963	0.0065	60.4	0.0013
15	0.8780	0.0151	50.7	0.0030	0.8905	0.0110	55.8	0.0022
20	0.8647	0.0209	46.4	0.0042	0.8807	0.0150	51.4	0.0030
25	0.8466	0.0222	42.3	0.0045	0.8675	0.0156	47.1	0.0031
30	0.8279	0.0239	38.2	0.0048	0.8540	0.0165	42.9	0.0033
35	0.8081	0.0277	34.1	0.0056	0.8399	0.0188	38.5	0.0038
40	0.7857	0.0337	30.0	0.0069	0.8241	0.0226	34.2	0.0046
45	0.7593	0.0441	26.0	0.0090	0.8055	0.0291	30.0	0.0059
50	0.7258	0.0608	22.0	0.0126	0.7820	0.0397	25.8	0.0081
55	0.6817	0.0856	18.3	0.0179	0.7509	0.0553	21.7	0.0114
60	0.6233	0.1301	14.8	0.0278	0.7094	0.0839	17.9	0.0175
65	0.5422	0.1934	11.6	0.0428	0.6499	0.1260	14.3	0.0269
70	0.4374	0.3005	8.8	0.0707	0.5680	0.2035	11.0	0.0453
75	0.3059	0.4491	6.5	0.1158	0.4524	0.3274	8.1	0.0783
80	0.1685	0.6223	4.8	0.2069	0.3043	0.5016	5.9	0.1703
85	0.0637	0.7852	3.7		0.1517	0.6943	4.3	
90	0.0137	0.9013	3.0		0.0464	0.8452	3.3	
95	0.0014	1.0000	2.5		0.0072	1.0000	2.5	

TRANS MARA								
AGE	MALES				FEMALES			
	l(x)	nx	e(x)	m(x)	l(x)	nx	e(x)	m(x)
0	1.0000	0.0701	59.8	0.0740	1.0000	0.0643	58.1	0.0676
1	0.9299	0.0386	63.3	0.0099	0.9357	0.0381	61.1	0.0097
5	0.8940	0.0075	61.7	0.0015	0.9000	0.0072	59.5	0.0014
10	0.8873	0.0051	57.2	0.0010	0.8935	0.0047	54.9	0.0010
15	0.8828	0.0086	52.5	0.0017	0.8893	0.0122	50.1	0.0025
20	0.8752	0.0134	47.9	0.0027	0.8784	0.0354	45.7	0.0072
25	0.8635	0.0287	43.5	0.0058	0.8473	0.0522	42.3	0.0107
30	0.8386	0.0447	39.7	0.0091	0.8030	0.0575	39.5	0.0118
35	0.8012	0.0515	36.5	0.0106	0.7569	0.0572	36.8	0.0118
40	0.7599	0.0532	33.3	0.0109	0.7136	0.0545	33.8	0.0112
45	0.7195	0.0537	30.0	0.0110	0.6747	0.0513	30.7	0.0105
50	0.6808	0.0553	26.6	0.0114	0.6401	0.0494	27.2	0.0101
55	0.6432	0.0603	23.0	0.0124	0.6084	0.0525	23.5	0.0108
60	0.6044	0.0736	19.3	0.0153	0.5765	0.0665	19.6	0.0138
65	0.5599	0.1040	15.7	0.0219	0.5381	0.0977	15.8	0.0205
70	0.5017	0.1632	12.2	0.0355	0.4856	0.1572	12.3	0.0341
75	0.4198	0.2698	9.1	0.0624	0.4092	0.2648	9.1	0.0610
80	0.3065	0.4365	6.5	0.1535	0.3009	0.4358	6.5	0.1540
85	0.1727	0.6419	4.6		0.1698	0.6474	4.6	
90	0.0619	0.8132	3.4		0.0599	0.8205	3.4	
95	0.0116	1.0000	2.5		0.0107	1.0000	2.5	

TRANS NZOIA								
AGE	MALES				FEMALES			
	l(x)	nx	e(x)	m(x)	l(x)	nx	e(x)	m(x)
0	1.0000	0.0617	57.1	0.0647	1.0000	0.0643	63.3	0.0676
1	0.9383	0.0408	59.9	0.0104	0.9357	0.0317	66.6	0.0081
5	0.9000	0.0083	58.3	0.0017	0.9060	0.0058	64.7	0.0012
10	0.8926	0.0056	53.8	0.0011	0.9008	0.0038	60.1	0.0008
15	0.8876	0.0096	49.1	0.0019	0.8974	0.0097	55.3	0.0019
20	0.8791	0.0152	44.6	0.0031	0.8887	0.0275	50.8	0.0056
25	0.8658	0.0331	40.2	0.0067	0.8642	0.0394	47.2	0.0080
30	0.8371	0.0528	36.5	0.0109	0.8302	0.0423	44.0	0.0087
35	0.7929	0.0626	33.4	0.0129	0.7950	0.0414	40.9	0.0084
40	0.7433	0.0660	30.4	0.0137	0.7621	0.0389	37.5	0.0079
45	0.6942	0.0678	27.4	0.0140	0.7325	0.0364	33.9	0.0074
50	0.6471	0.0705	24.2	0.0146	0.7059	0.0348	30.1	0.0071
55	0.6015	0.0775	20.9	0.0161	0.6813	0.0369	26.1	0.0075
60	0.5548	0.0951	17.4	0.0200	0.6561	0.0467	22.0	0.0096
65	0.5021	0.1341	14.0	0.0288	0.6255	0.0690	18.0	0.0143
70	0.4348	0.2083	10.8	0.0465	0.5823	0.1126	14.1	0.0239
75	0.3442	0.3351	8.0	0.0805	0.5167	0.1959	10.6	0.0434
80	0.2288	0.5159	5.7	0.1751	0.4155	0.3429	7.6	0.1316
85	0.1108	0.7131	4.1		0.2730	0.5555	5.3	
90	0.0318	0.8611	3.2		0.1213	0.7576	3.7	
95	0.0044	1.0000	2.5		0.0294	1.0000	2.5	

Kenya 1999 Population and Housing Census

TURKANA								
AGE	MALES				FEMALES			
	l(X)	nx _x	e(x)	m(x)	l(x)	nx _x	e(x)	m(x)
0	1.0000	0.0651	54.8	0.0685	1.0000	0.0669	59.1	0.0704
1	0.9349	0.0598	57.6	0.0154	0.9331	0.0505	62.3	0.0130
5	0.8790	0.0261	57.2	0.0053	0.8860	0.0209	61.5	0.0042
10	0.8561	0.0107	53.6	0.0021	0.8675	0.0084	57.8	0.0017
15	0.8469	0.0182	49.2	0.0037	0.8602	0.0142	53.2	0.0029
20	0.8315	0.0251	45.0	0.0051	0.8479	0.0193	49.0	0.0039
25	0.8107	0.0263	41.1	0.0053	0.8315	0.0201	44.9	0.0041
30	0.7893	0.0281	37.2	0.0057	0.8148	0.0212	40.7	0.0043
35	0.7671	0.0323	33.2	0.0066	0.7976	0.0241	36.6	0.0049
40	0.7423	0.0389	29.2	0.0079	0.7783	0.0288	32.4	0.0058
45	0.7134	0.0504	25.3	0.0103	0.7559	0.0369	28.3	0.0075
50	0.6775	0.0686	21.5	0.0142	0.7281	0.0499	24.3	0.0102
55	0.6310	0.0948	17.9	0.0199	0.6917	0.0687	20.4	0.0142
60	0.5712	0.1409	14.5	0.0303	0.6442	0.1025	16.7	0.0216
65	0.4907	0.2042	11.5	0.0455	0.5782	0.1504	13.4	0.0325
70	0.3905	0.3088	8.8	0.0730	0.4912	0.2349	10.3	0.0532
75	0.2699	0.4504	6.6	0.1163	0.3758	0.3619	7.7	0.0884
80	0.1483	0.6159	4.9	0.2042	0.2398	0.5299	5.6	0.1775
85	0.0570	0.7757	3.7		0.1127	0.7097	4.2	
90	0.0128	0.8940	3.0		0.0327	0.8518	3.2	
95	0.0014	1.0000	2.5		0.0049	1.0000	2.5	

UASIN GISHU								
AGE	MALES				FEMALES			
	l(x)	nx _x	e(x)	m(x)	l(x)	nx _x	e(x)	m(x)
0	1.0000	0.0466	57.6	0.0483	1.0000	0.0504	63.5	0.0524
1	0.9534	0.0434	59.4	0.0111	0.9496	0.0343	65.9	0.0087
5	0.9120	0.0179	58.1	0.0036	0.9170	0.0129	64.2	0.0026
10	0.8957	0.0072	54.1	0.0015	0.9052	0.0051	60.0	0.0010
15	0.8892	0.0124	49.4	0.0025	0.9006	0.0092	55.3	0.0018
20	0.8781	0.0175	45.0	0.0035	0.8923	0.0179	50.8	0.0036
25	0.8627	0.0244	40.8	0.0049	0.8763	0.0247	46.7	0.0050
30	0.8417	0.0354	36.8	0.0072	0.8547	0.0278	42.8	0.0056
35	0.8119	0.0438	33.0	0.0089	0.8309	0.0295	38.9	0.0060
40	0.7764	0.0501	29.4	0.0103	0.8064	0.0308	35.0	0.0063
45	0.7374	0.0578	25.8	0.0119	0.7816	0.0334	31.1	0.0068
50	0.6948	0.0693	22.3	0.0144	0.7555	0.0389	27.1	0.0079
55	0.6466	0.0889	18.7	0.0186	0.7261	0.0500	23.0	0.0103
60	0.5891	0.1234	15.3	0.0263	0.6898	0.0709	19.1	0.0147
65	0.5164	0.1828	12.1	0.0402	0.6409	0.1079	15.4	0.0228
70	0.4220	0.2785	9.3	0.0647	0.5718	0.1719	12.0	0.0376
75	0.3045	0.4200	6.9	0.1063	0.4735	0.2810	8.9	0.0654
80	0.1766	0.5946	5.1	0.1980	0.3404	0.4464	6.4	0.1557
85	0.0716	0.7668	3.8		0.1885	0.6476	4.6	
90	0.0167	0.8915	3.0		0.0664	0.8159	3.4	
95	0.0018	1.0000	2.5		0.0122	1.0000	2.5	

WEST POKOT								
AGE	MALES				FEMALES			
	l(X)	nx _x	e(x)	m(x)	l(X)	nx _x	e(x)	m(x)
0	1.0000	0.0857	55.4	0.0916	1.0000	0.0887	61.3	0.0950
1	0.9143	0.0485	59.6	0.0124	0.9113	0.0377	66.2	0.0096
5	0.8700	0.0095	58.5	0.0019	0.8770	0.0067	64.7	0.0013
10	0.8617	0.0064	54.1	0.0013	0.8711	0.0043	60.1	0.0009
15	0.8562	0.0108	49.4	0.0022	0.8674	0.0110	55.4	0.0022
20	0.8470	0.0169	44.9	0.0034	0.8578	0.0307	51.0	0.0062
25	0.8327	0.0361	40.7	0.0073	0.8314	0.0427	47.5	0.0087
30	0.8026	0.0558	37.1	0.0115	0.7960	0.0445	44.5	0.0091
35	0.7578	0.0640	34.1	0.0132	0.7605	0.0424	41.5	0.0087
40	0.7093	0.0656	31.3	0.0136	0.7283	0.0391	38.2	0.0080
45	0.6628	0.0658	28.3	0.0136	0.6998	0.0360	34.6	0.0073
50	0.6192	0.0672	25.1	0.0139	0.6746	0.0340	30.8	0.0069
55	0.5776	0.0727	21.8	0.0151	0.6517	0.0357	26.8	0.0073
60	0.5356	0.0879	18.3	0.0184	0.6284	0.0446	22.7	0.0091
65	0.4885	0.1223	14.8	0.0261	0.6004	0.0650	18.7	0.0134
70	0.4288	0.1879	11.5	0.0415	0.5614	0.1044	14.8	0.0220
75	0.3482	0.3010	8.6	0.0709	0.5028	0.1785	11.3	0.0392
80	0.2434	0.4683	6.2	0.1611	0.4130	0.3093	8.2	0.1226
85	0.1294	0.6645	4.5		0.2853	0.5058	5.7	
90	0.0434	0.8252	3.4		0.1410	0.7097	4.0	
95	0.0076	1.0000	2.5		0.0409	1.0000	2.5	

Volume V: Analytical Report on Mortality

BURET								
AGE	MALES				FEMALES			
	l(x)	nqx	e(x)	m(x)	l(x)	nqx	e(x)	m(x)
0	1.0000	0.0378	57.8	0.0389	1.0000	0.0399	63.3	0.0412
1	0.9622	0.0324	59.0	0.0082	0.9601	0.0261	65.0	0.0066
5	0.9310	0.0070	56.9	0.0014	0.9350	0.0050	62.7	0.0010
10	0.9245	0.0048	52.3	0.0010	0.9303	0.0033	58.0	0.0007
15	0.9201	0.0083	47.6	0.0017	0.9272	0.0087	53.1	0.0017
20	0.9124	0.0135	42.9	0.0027	0.9192	0.0257	48.6	0.0052
25	0.9002	0.0306	38.5	0.0062	0.8956	0.0392	44.8	0.0080
30	0.8726	0.0517	34.6	0.0106	0.8605	0.0446	41.5	0.0091
35	0.8275	0.0649	31.4	0.0134	0.8221	0.0456	38.3	0.0093
40	0.7738	0.0718	28.4	0.0149	0.7846	0.0446	35.1	0.0091
45	0.7182	0.0766	25.4	0.0159	0.7497	0.0429	31.6	0.0088
50	0.6632	0.0822	22.3	0.0171	0.7175	0.0420	27.9	0.0086
55	0.6087	0.0925	19.1	0.0194	0.6874	0.0454	24.0	0.0093
60	0.5524	0.1157	15.8	0.0246	0.6561	0.0585	20.0	0.0121
65	0.4885	0.1655	12.5	0.0361	0.6178	0.0881	16.1	0.0184
70	0.4076	0.2583	9.5	0.0593	0.5633	0.1462	12.4	0.0315
75	0.3023	0.4094	6.9	0.1030	0.4810	0.2562	9.1	0.0588
80	0.1785	0.6042	4.9	0.2027	0.3578	0.4386	6.4	0.1563
85	0.0707	0.7889	3.7		0.2009	0.6648	4.4	
90	0.0149	0.9101	2.9		0.0673	0.8400	3.3	
95	0.0013	1.0000	2.5		0.0108	1.0000	2.5	

KOIBATEK								
AGE	MALES				FEMALES			
	l(X)	nqx	e(x)	m(x)	l(x)	nqx	e(x)	m(x)
0	1.0000	0.0473	66.0	0.0491	1.0000	0.0525	72.4	0.0547
1	0.9527	0.0311	68.3	0.0079	0.9475	0.0237	75.4	0.0060
5	0.9230	0.0118	66.4	0.0024	0.9250	0.0082	73.2	0.0016
10	0.9122	0.0046	62.2	0.0009	0.9174	0.0031	68.8	0.0006
15	0.9079	0.0078	57.5	0.0016	0.9145	0.0056	64.0	0.0011
20	0.9008	0.0108	52.9	0.0022	0.9094	0.0106	59.4	0.0021
25	0.8912	0.0146	48.4	0.0029	0.8998	0.0140	55.0	0.0028
30	0.8781	0.0205	44.1	0.0042	0.8871	0.0152	50.7	0.0031
35	0.8601	0.0246	40.0	0.0050	0.8736	0.0156	46.5	0.0031
40	0.8389	0.0275	35.9	0.0056	0.8600	0.0158	42.2	0.0032
45	0.8159	0.0310	31.9	0.0063	0.8464	0.0167	37.8	0.0034
50	0.7906	0.0366	27.8	0.0074	0.8323	0.0190	33.4	0.0038
55	0.7617	0.0464	23.8	0.0095	0.8165	0.0240	29.0	0.0049
60	0.7263	0.0645	19.8	0.0133	0.7969	0.0334	24.7	0.0068
65	0.6795	0.0973	16.0	0.0205	0.7703	0.0503	20.4	0.0103
70	0.6134	0.1557	12.5	0.0338	0.7316	0.0805	16.4	0.0168
75	0.5179	0.2584	9.3	0.0593	0.6726	0.1375	12.6	0.0295
80	0.3841	0.4211	6.7	0.1497	0.5802	0.2442	9.2	0.1087
85	0.2223	0.6279	4.7		0.4385	0.4273	6.4	
90	0.0827	0.8049	3.5		0.2512	0.6507	4.2	
95	0.0161	1.0000	2.5		0.0877	1.0000	2.5	

WESTERN								
AGE	MALES				FEMALES			
	l(x)	nqx	e(x)	m(x)	l(x)	nqx	e(x)	m(x)
0	1.0000	0.0973	49.8	0.1049	1.0000	0.1039	55.8	0.1127
1	0.9027	0.0739	54.1	0.0192	0.8961	0.0570	61.3	0.0147
5	0.8360	0.0288	54.3	0.0058	0.8450	0.0204	60.9	0.0041
10	0.8120	0.0114	50.8	0.0023	0.8278	0.0079	57.1	0.0016
15	0.8027	0.0192	46.4	0.0039	0.8212	0.0141	52.5	0.0028
20	0.7873	0.0265	42.3	0.0054	0.8097	0.0267	48.2	0.0054
25	0.7664	0.0358	38.3	0.0073	0.7880	0.0355	44.5	0.0072
30	0.7390	0.0499	34.7	0.0102	0.7600	0.0386	41.0	0.0079
35	0.7021	0.0592	31.4	0.0122	0.7307	0.0395	37.6	0.0081
40	0.6605	0.0652	28.2	0.0135	0.7018	0.0400	34.0	0.0082
45	0.6174	0.0721	25.0	0.0150	0.6737	0.0422	30.3	0.0086
50	0.5729	0.0831	21.7	0.0173	0.6453	0.0477	26.6	0.0098
55	0.5253	0.1021	18.4	0.0215	0.6145	0.0593	22.8	0.0122
60	0.4717	0.1354	15.3	0.0290	0.5781	0.0808	19.0	0.0168
65	0.4078	0.1907	12.3	0.0422	0.5314	0.1175	15.5	0.0250
70	0.3301	0.2761	9.6	0.0641	0.4690	0.1772	12.2	0.0389
75	0.2389	0.3997	7.3	0.0999	0.3858	0.2736	9.3	0.0634
80	0.1434	0.5560	5.4	0.1845	0.2803	0.4160	6.9	0.1455
85	0.0637	0.7233	4.1		0.1637	0.5969	5.0	
90	0.0176	0.8583	3.2		0.0660	0.7663	3.7	
95	0.0025	1.0000	2.5		0.0154	1.0000	2.5	

Kenya 1999 Population and Housing Census

BUNGOMA								
AGE	MALES				FEMALES			
	l(x)	nqx	e(x)	m(x)	l(x)	nqx	e(x)	m(x)
0	1.0000	0.0933	54.3	0.1003	1.0000	0.1006	61.5	0.1088
1	0.9067	0.0614	58.8	0.0159	0.8994	0.0449	67.4	0.0115
5	0.8510	0.0231	58.6	0.0047	0.8590	0.0154	66.5	0.0031
10	0.8314	0.0091	54.9	0.0018	0.8458	0.0059	62.5	0.0012
15	0.8238	0.0152	50.4	0.0031	0.8408	0.0105	57.8	0.0021
20	0.8113	0.0208	46.1	0.0042	0.8320	0.0196	53.4	0.0040
25	0.7944	0.0280	42.0	0.0057	0.8157	0.0257	49.4	0.0052
30	0.7722	0.0387	38.2	0.0079	0.7947	0.0276	45.7	0.0056
35	0.7423	0.0456	34.6	0.0093	0.7728	0.0279	41.9	0.0056
40	0.7085	0.0499	31.1	0.0102	0.7513	0.0279	38.0	0.0057
45	0.6731	0.0551	27.7	0.0113	0.7303	0.0292	34.0	0.0059
50	0.6361	0.0634	24.1	0.0131	0.7090	0.0328	30.0	0.0067
55	0.5957	0.0782	20.6	0.0163	0.6857	0.0406	25.9	0.0083
60	0.5491	0.1045	17.1	0.0221	0.6578	0.0554	21.9	0.0114
65	0.4917	0.1495	13.8	0.0323	0.6214	0.0808	18.0	0.0168
70	0.4182	0.2223	10.8	0.0500	0.5712	0.1236	14.4	0.0264
75	0.3252	0.3349	8.2	0.0805	0.5006	0.1969	11.1	0.0437
80	0.2163	0.4896	6.1	0.1652	0.4020	0.3171	8.2	0.1221
85	0.1104	0.6680	4.5		0.2745	0.4934	5.8	
90	0.0367	0.8202	3.4		0.1391	0.6844	4.1	
95	0.0066	1.0000	2.5		0.0439	1.0000	2.5	

BUSIA								
AGE	MALES				FEMALES			
	l(x)	nqx	e(x)	m(x)	l(x)	nqx	e(x)	m(x)
0	1.0000	0.1215	41.0	0.1337	1.0000	0.1303	46.6	0.1444
1	0.8785	0.1087	45.6	0.0288	0.8697	0.0848	52.5	0.0222
5	0.7830	0.0441	47.0	0.0090	0.7960	0.0314	53.2	0.0064
10	0.7485	0.0177	44.0	0.0036	0.7710	0.0123	49.9	0.0025
15	0.7353	0.0299	39.7	0.0061	0.7616	0.0220	45.4	0.0044
20	0.7133	0.0411	35.9	0.0084	0.7448	0.0418	41.4	0.0085
25	0.6840	0.0558	32.3	0.0115	0.7137	0.0558	38.1	0.0115
30	0.6459	0.0775	29.1	0.0161	0.6739	0.0608	35.2	0.0125
35	0.5958	0.0915	26.3	0.0192	0.6329	0.0623	32.3	0.0129
40	0.5413	0.0999	23.7	0.0210	0.5935	0.0630	29.3	0.0130
45	0.4872	0.1093	21.1	0.0231	0.5561	0.0662	26.1	0.0137
50	0.4340	0.1240	18.4	0.0264	0.5193	0.0743	22.8	0.0154
55	0.3801	0.1493	15.6	0.0323	0.4807	0.0914	19.4	0.0192
60	0.3234	0.1921	12.9	0.0425	0.4367	0.1226	16.1	0.0261
65	0.2613	0.2597	10.4	0.0597	0.3832	0.1733	13.0	0.0379
70	0.1934	0.3565	8.1	0.0868	0.3168	0.2506	10.2	0.0573
75	0.1245	0.4845	6.2	0.1279	0.2374	0.3638	7.8	0.0889
80	0.0642	0.6332	4.8	0.2095	0.1510	0.5122	5.9	0.1708
85	0.0235	0.7830	3.7		0.0737	0.6801	4.4	
90	0.0051	0.8978	3.0		0.0236	0.8250	3.4	
95	0.0005	1.0000	2.5		0.0041	1.0000	2.5	

MT. ELGON								
AGE	MALES				FEMALES			
	l(x)	nqx	e(x)	m(x)	l(x)	nqx	e(x)	m(x)
0	1.0000	0.0670	56.5	0.0705	1.0000	0.0757	65.4	0.0803
1	0.9330	0.0515	59.6	0.0132	0.9243	0.0360	69.7	0.0092
5	0.8850	0.0201	58.7	0.0041	0.8910	0.0125	68.3	0.0025
10	0.8672	0.0080	54.9	0.0016	0.8798	0.0048	64.1	0.0010
15	0.8602	0.0136	50.3	0.0027	0.8756	0.0086	59.4	0.0017
20	0.8486	0.0188	45.9	0.0038	0.8681	0.0162	54.9	0.0033
25	0.8326	0.0257	41.8	0.0052	0.8540	0.0215	50.8	0.0043
30	0.8112	0.0363	37.8	0.0074	0.8357	0.0233	46.8	0.0047
35	0.7818	0.0437	34.1	0.0089	0.8162	0.0237	42.9	0.0048
40	0.7477	0.0488	30.6	0.0100	0.7969	0.0240	38.8	0.0049
45	0.7112	0.0549	27.0	0.0113	0.7777	0.0253	34.7	0.0051
50	0.6722	0.0644	23.4	0.0133	0.7580	0.0287	30.6	0.0058
55	0.6288	0.0809	19.9	0.0169	0.7362	0.0360	26.4	0.0073
60	0.5780	0.1101	16.4	0.0233	0.7097	0.0496	22.3	0.0102
65	0.5143	0.1605	13.1	0.0349	0.6745	0.0736	18.3	0.0153
70	0.4318	0.2423	10.2	0.0551	0.6249	0.1151	14.6	0.0244
75	0.3271	0.3676	7.6	0.0901	0.5530	0.1883	11.2	0.0416
80	0.2069	0.5335	5.6	0.1786	0.4489	0.3124	8.2	0.1222
85	0.0965	0.7128	4.1		0.3086	0.4983	5.8	
90	0.0277	0.8545	3.2		0.1548	0.6977	4.0	
95	0.0040	1.0000	2.5		0.0468	1.0000	2.5	

Volume V: Analytical Report on Mortality

KAKAMEGA								
AGE	MALES				FEMALES			
	l(x)	nqx	e(x)	m(x)	l(x)	nqx	e(x)	m(x)
0	1.0000	0.1075	50.1	0.1169	1.0000	0.1142	56.6	0.1249
1	0.8925	0.0745	55.1	0.0194	0.8858	0.0562	62.8	0.0145
5	0.8260	0.0283	55.4	0.0057	0.8360	0.0196	62.5	0.0040
10	0.8026	0.0111	51.9	0.0022	0.8196	0.0075	58.7	0.0015
15	0.7937	0.0187	47.5	0.0038	0.8134	0.0134	54.1	0.0027
20	0.7788	0.0256	43.3	0.0052	0.8025	0.0252	49.8	0.0051
25	0.7589	0.0344	39.4	0.0070	0.7823	0.0332	46.0	0.0068
30	0.7328	0.0475	35.7	0.0097	0.7563	0.0357	42.5	0.0073
35	0.6979	0.0559	32.4	0.0115	0.7293	0.0362	39.0	0.0074
40	0.6589	0.0610	29.2	0.0126	0.7029	0.0364	35.4	0.0074
45	0.6188	0.0670	25.9	0.0139	0.6773	0.0381	31.6	0.0078
50	0.5773	0.0768	22.6	0.0160	0.6516	0.0428	27.7	0.0087
55	0.5330	0.0939	19.2	0.0197	0.6237	0.0529	23.9	0.0109
60	0.4829	0.1241	16.0	0.0265	0.5907	0.0717	20.1	0.0149
65	0.4230	0.1747	12.9	0.0383	0.5483	0.1039	16.4	0.0219
70	0.3491	0.2539	10.1	0.0582	0.4914	0.1566	13.0	0.0340
75	0.2604	0.3711	7.7	0.0911	0.4145	0.2429	10.0	0.0553
80	0.1638	0.5244	5.7	0.1748	0.3138	0.3752	7.4	0.1352
85	0.0779	0.6948	4.3		0.1961	0.5528	5.3	
90	0.0238	0.8376	3.3		0.0877	0.7298	3.9	
95	0.0039	1.0000	2.5		0.0237	1.0000	2.5	

LUGARI								
AGE	MALES				FEMALES			
	l(x)	nqx	e(x)	m(x)	l(x)	nqx	e(x)	m(x)
0	1.0000	0.0615	57.4	0.0645	1.0000	0.0666	64.0	0.0701
1	0.9385	0.0485	60.1	0.0124	0.9334	0.0369	67.6	0.0094
5	0.8930	0.0191	59.1	0.0039	0.8990	0.0132	66.1	0.0027
10	0.8759	0.0076	55.2	0.0015	0.8871	0.0051	61.9	0.0010
15	0.8693	0.0129	50.6	0.0026	0.8825	0.0092	57.2	0.0018
20	0.8581	0.0179	46.2	0.0036	0.8744	0.0176	52.8	0.0036
25	0.8427	0.0246	42.0	0.0050	0.8590	0.0237	48.7	0.0048
30	0.8219	0.0349	38.0	0.0071	0.8387	0.0260	44.8	0.0053
35	0.7933	0.0422	34.3	0.0086	0.8169	0.0269	40.9	0.0055
40	0.7598	0.0473	30.7	0.0097	0.7949	0.0276	37.0	0.0056
45	0.7238	0.0535	27.1	0.0110	0.7730	0.0294	32.9	0.0060
50	0.6851	0.0631	23.5	0.0130	0.7502	0.0337	28.9	0.0069
55	0.6419	0.0796	19.9	0.0166	0.7250	0.0426	24.8	0.0087
60	0.5908	0.1089	16.4	0.0230	0.6941	0.0593	20.8	0.0122
65	0.5264	0.1597	13.1	0.0347	0.6530	0.0888	16.9	0.0186
70	0.4424	0.2426	10.1	0.0552	0.5950	0.1396	13.3	0.0300
75	0.3350	0.3700	7.6	0.0908	0.5119	0.2281	10.1	0.0515
80	0.2111	0.5383	5.5	0.1802	0.3952	0.3711	7.3	0.1362
85	0.0974	0.7186	4.1		0.2485	0.5669	5.2	
90	0.0274	0.8591	3.2		0.1076	0.7543	3.7	
95	0.0039	1.0000	2.5		0.0264	1.0000	2.5	

TESO								
AGE	MALES				FEMALES			
	l(x)	nqx	e(x)	m(x)	l(x)	nqx	e(x)	m(x)
0	1.0000	0.0842	48.8	0.0899	1.0000	0.0852	52.0	0.0910
1	0.9158	0.0740	52.3	0.0193	0.9148	0.0632	55.8	0.0163
5	0.8480	0.0300	52.3	0.0061	0.8570	0.0242	55.5	0.0049
10	0.8226	0.0120	48.9	0.0024	0.8362	0.0096	51.8	0.0019
15	0.8127	0.0204	44.4	0.0041	0.8282	0.0173	47.3	0.0035
20	0.7961	0.0284	40.3	0.0058	0.8139	0.0336	43.1	0.0068
25	0.7735	0.0389	36.4	0.0079	0.7866	0.0460	39.5	0.0094
30	0.7434	0.0550	32.8	0.0113	0.7504	0.0515	36.2	0.0106
35	0.7025	0.0662	29.6	0.0137	0.7118	0.0540	33.1	0.0111
40	0.6560	0.0737	26.5	0.0153	0.6734	0.0558	29.8	0.0115
45	0.6076	0.0824	23.4	0.0172	0.6358	0.0597	26.4	0.0123
50	0.5575	0.0957	20.3	0.0201	0.5978	0.0684	23.0	0.0142
55	0.5042	0.1183	17.1	0.0251	0.5569	0.0859	19.5	0.0180
60	0.4446	0.1571	14.1	0.0341	0.5091	0.1178	16.1	0.0250
65	0.3747	0.2205	11.3	0.0496	0.4491	0.1707	12.9	0.0373
70	0.2921	0.3159	8.7	0.0750	0.3724	0.2535	10.0	0.0581
75	0.1998	0.4481	6.6	0.1155	0.2780	0.3764	7.6	0.0927
80	0.1103	0.6061	5.0	0.2007	0.1734	0.5359	5.6	0.1786
85	0.0434	0.7658	3.8		0.0805	0.7090	4.2	
90	0.0102	0.8876	3.1		0.0234	0.8494	3.3	
95	0.0011	1.0000	2.5		0.0035	1.0000	2.5	

Kenya 1999 Population and Housing Census

VIHIGA								
AGE	MALES				FEMALES			
	l(x)	nqx	e(x)	m(x)	l(x)	nqx	e(x)	m(x)
0	1.0000	0.0793	53.2	0.0643	1.0000	0.0844	58.7	0.0901
1	0.9207	0.0616	56.7	0.0159	0.9156	0.0487	63.1	0.0125
5	0.8640	0.0242	56.3	0.0049	0.8710	0.0176	62.2	0.0036
10	0.8431	0.0096	52.7	0.0019	0.8556	0.0069	58.3	0.0014
15	0.8350	0.0163	48.2	0.0033	0.8498	0.0123	53.7	0.0025
20	0.8215	0.0225	43.9	0.0045	0.8394	0.0234	49.3	0.0047
25	0.8030	0.0306	39.9	0.0062	0.8197	0.0315	45.4	0.0064
30	0.7784	0.0430	36.0	0.0088	0.7939	0.0345	41.8	0.0070
35	0.7449	0.0516	32.5	0.0106	0.7665	0.0357	38.2	0.0073
40	0.7065	0.0573	29.2	0.0118	0.7391	0.0364	34.5	0.0074
45	0.6661	0.0640	25.8	0.0132	0.7122	0.0387	30.8	0.0079
50	0.6234	0.0746	22.4	0.0155	0.6847	0.0441	26.9	0.0090
55	0.5769	0.0927	19.0	0.0195	0.6545	0.0553	23.0	0.0114
60	0.5234	0.1246	15.7	0.0266	0.6183	0.0762	19.2	0.0159
65	0.4582	0.1786	12.6	0.0392	0.5711	0.1123	15.6	0.0238
70	0.3764	0.2638	9.8	0.0608	0.5070	0.1722	12.3	0.0377
75	0.2771	0.3898	7.4	0.0968	0.4197	0.2706	9.3	0.0626
80	0.1691	0.5513	5.5	0.1834	0.3061	0.4184	6.8	0.1468
85	0.0759	0.7234	4.1		0.1781	0.6056	4.9	
90	0.0210	0.8599	3.2		0.0702	0.7769	3.6	
95	0.0029	1.0000	2.5		0.0157	1.0000	2.5	

BUTERE/MUMIAS								
AGE	MALES				FEMALES			
	l(x)	nqx	e(x)	m(x)	l(x)	nqx	e(x)	m(x)
0	1.0000	0.1264	45.3	0.1396	1.0000	0.1377	51.6	0.1535
1	0.8736	0.0923	50.9	0.0242	0.8623	0.0700	58.8	0.0182
5	0.7930	0.0355	51.8	0.0072	0.8020	0.0246	59.1	0.0050
10	0.7649	0.0140	48.6	0.0028	0.7823	0.0095	55.5	0.0019
15	0.7542	0.0235	44.3	0.0048	0.7749	0.0168	51.0	0.0034
20	0.7365	0.0321	40.3	0.0065	0.7619	0.0315	46.9	0.0064
25	0.7128	0.0430	36.6	0.0088	0.7379	0.0413	43.3	0.0084
30	0.6822	0.0592	33.1	0.0122	0.7074	0.0443	40.1	0.0091
35	0.6418	0.0693	30.0	0.0144	0.6761	0.0447	36.8	0.0092
40	0.5973	0.0752	27.1	0.0156	0.6458	0.0448	33.4	0.0092
45	0.5524	0.0821	24.1	0.0171	0.6169	0.0467	29.9	0.0096
50	0.5070	0.0933	21.0	0.0196	0.5881	0.0522	26.2	0.0107
55	0.4597	0.1130	17.9	0.0239	0.5575	0.0641	22.5	0.0132
60	0.4078	0.1471	14.9	0.0318	0.5217	0.0861	18.9	0.0180
65	0.3478	0.2032	12.0	0.0452	0.4768	0.1230	15.4	0.0262
70	0.2771	0.2877	9.4	0.0672	0.4182	0.1818	12.2	0.0400
75	0.1974	0.4076	7.2	0.1024	0.3421	0.2745	9.4	0.0636
80	0.1169	0.5579	5.4	0.1846	0.2482	0.4095	7.0	0.1430
85	0.0517	0.7205	4.1		0.1466	0.5822	5.1	
90	0.0144	0.8545	3.2		0.0612	0.7492	3.8	
95	0.0021	1.0000	2.5		0.0154	1.0000	2.5	

Appendix 11 List of Contributors

Main Contributors to the Kenya 1999 Population and Housing Census Analytical Reports

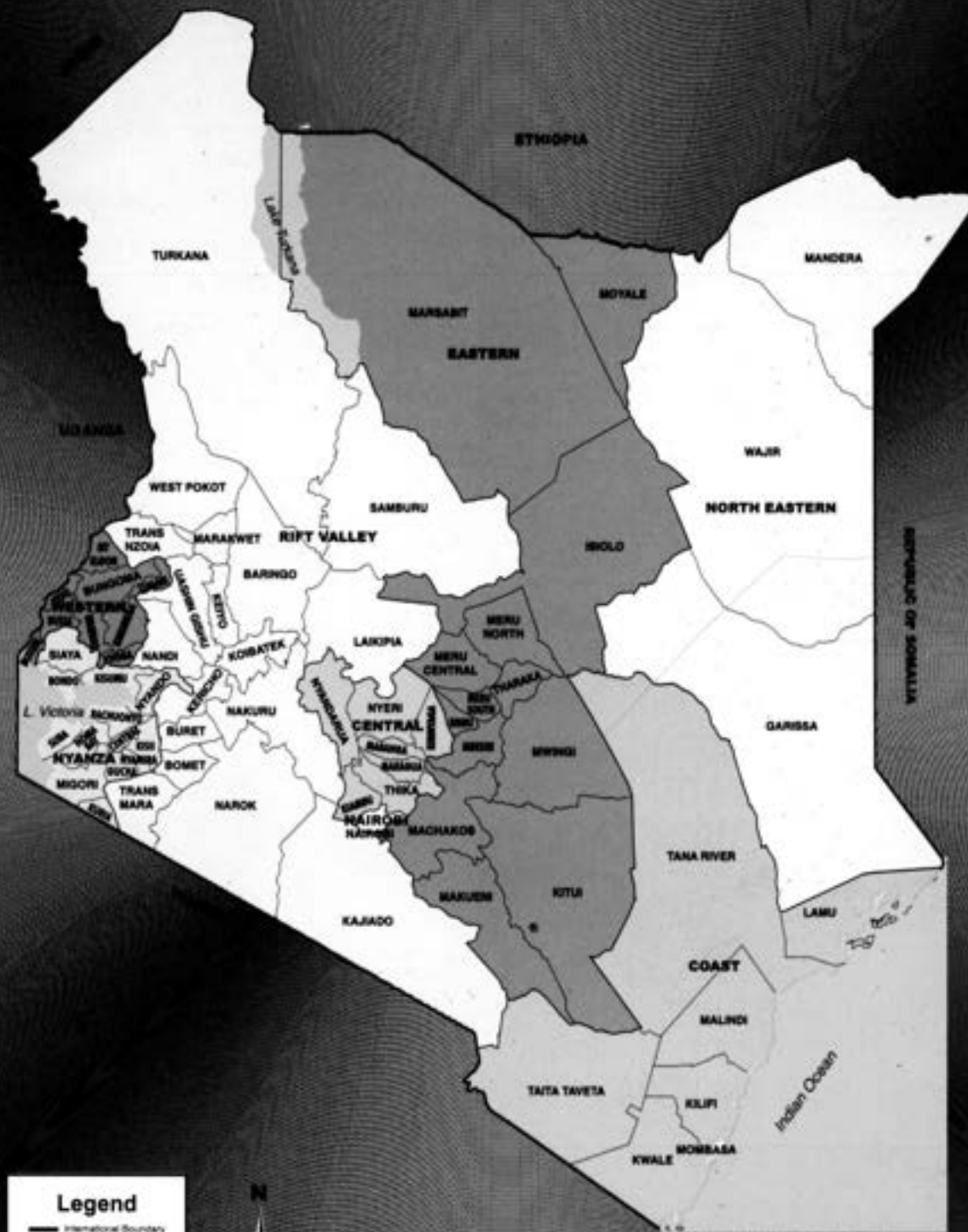
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Kenya 1999 Population and Housing Census

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Ms Jane Kamau Central Bureau of Statistics	Secretarial Services
Ms Rose A. Owuor Central Bureau of Statistics	Secretarial Services
Mr. Manasse Kadenge Central Bureau of Statistics	Driver
Mr. Charles Onyango Ayot Central Bureau of Statistics	Driver

KENYA ADMINISTRATIVE BOUNDARIES



Legend

- International Boundary
- Provincial Boundary
- District Boundary
- Lakes / Oceans

N

155

310

620 Kilometers