

COUNTRY DEMOGRAPHIC PROFILES

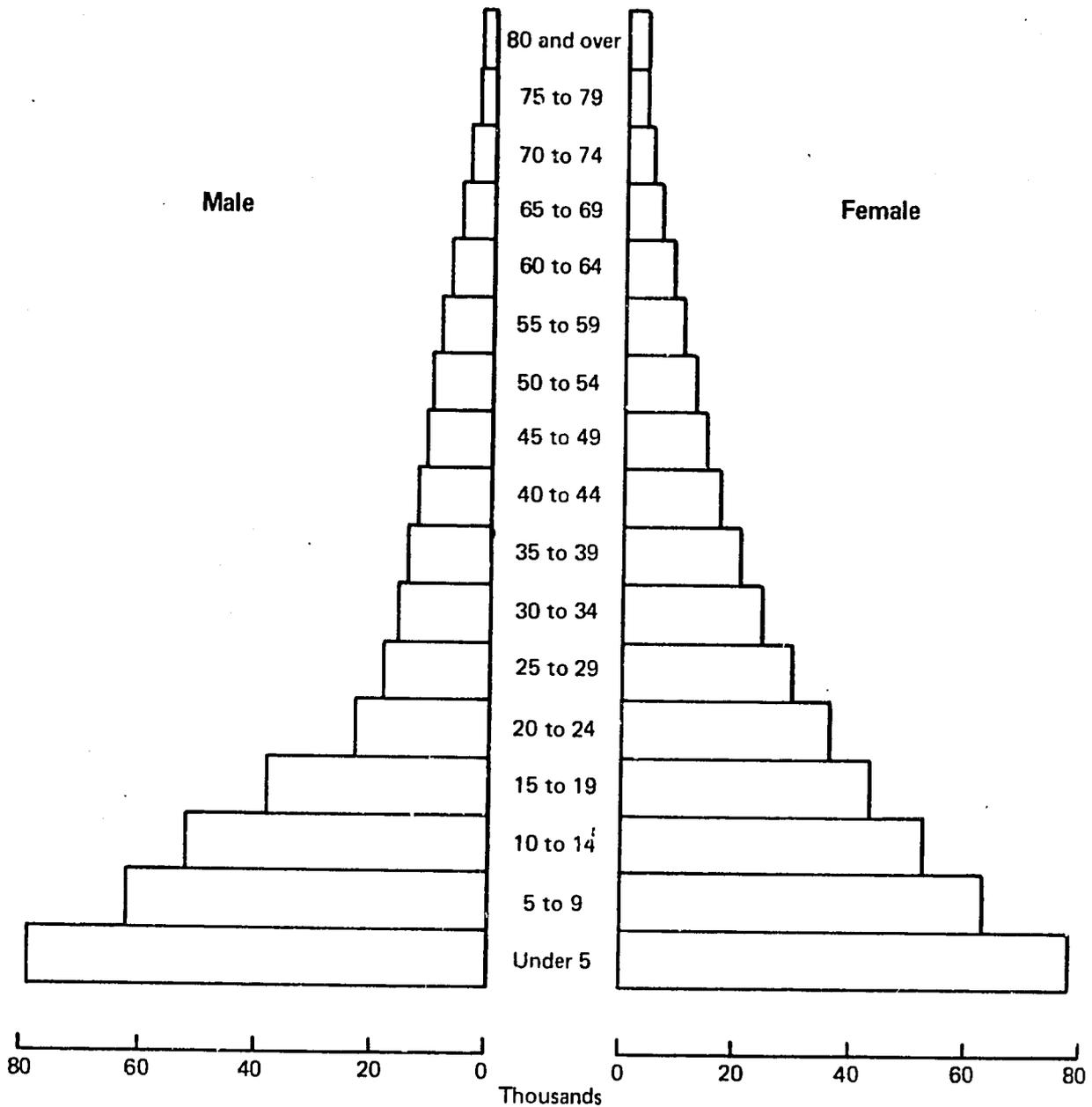
BOTSWANA



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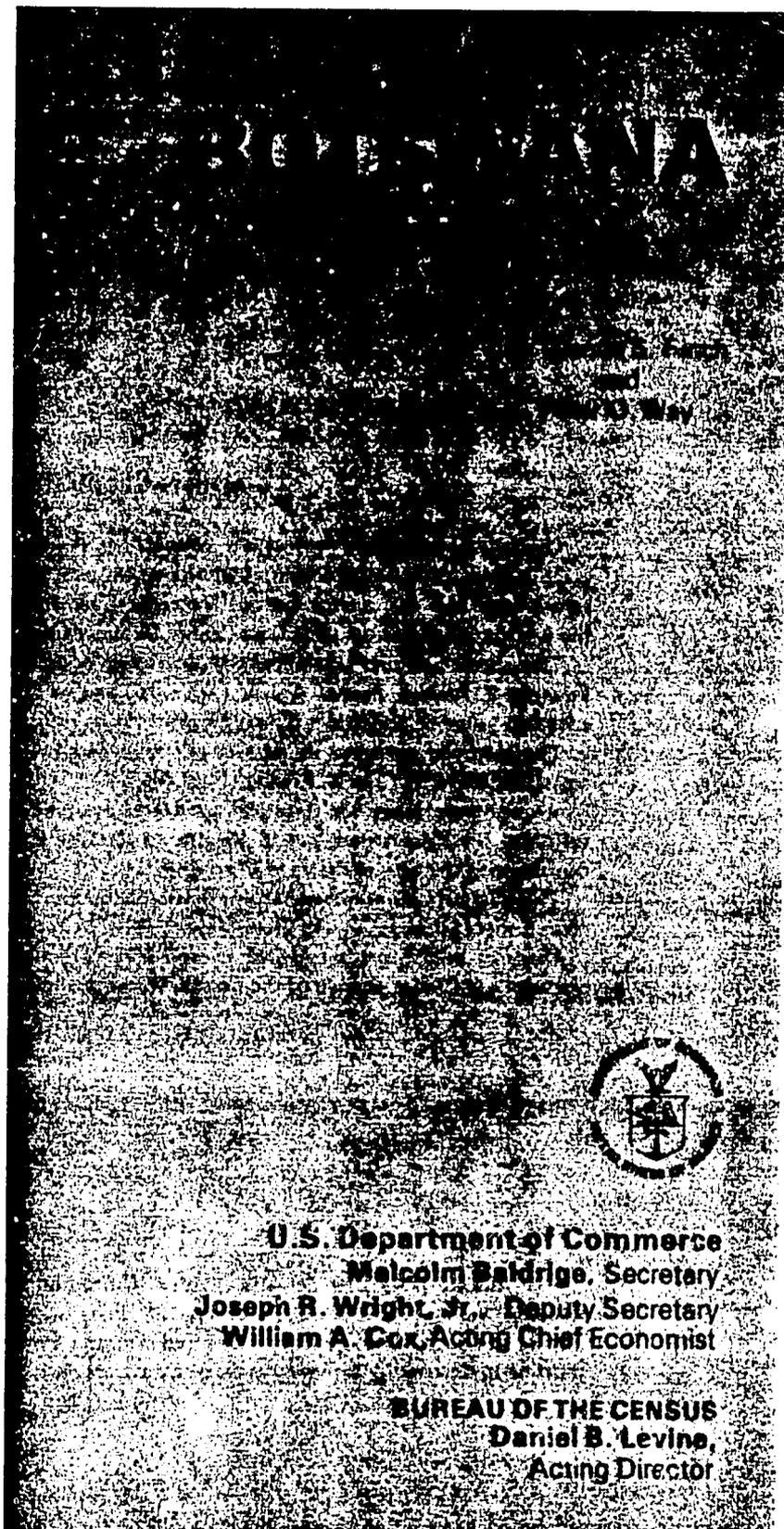
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Figure 1. Projected Population, by Age and Sex: July 1, 1980



Projection based on Botswana's 1971 census of population as adjusted by the U.S. Bureau of the Census; see appendix table A-1, this report.

Series ISP-DP-27
Issued June 1981



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ACKNOWLEDGMENTS

Country Demographic Profiles is a series of reports which brings together a variety of demographic data for selected countries of the world, and usually includes data for both a recent census year and the current period. The reports are prepared in the Data Evaluation Branch, the International Demographic Data Center, Bureau of the Census.

This report was prepared under the supervision of James F. Spitler, Data Evaluation Branch. Eduardo E. Arriaga, Special Assistant for International Demographic Methods, provided assistance and valuable suggestions during the preparation of this profile.

The map was prepared in the Geography Division. It was designed by Betty L. Adamek, and constructed by Fred W. Fricker.

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Users of this report are invited to send their comments to the Chief, International Demographic Data Center, Bureau of the Census, Washington, D.C. 20233.

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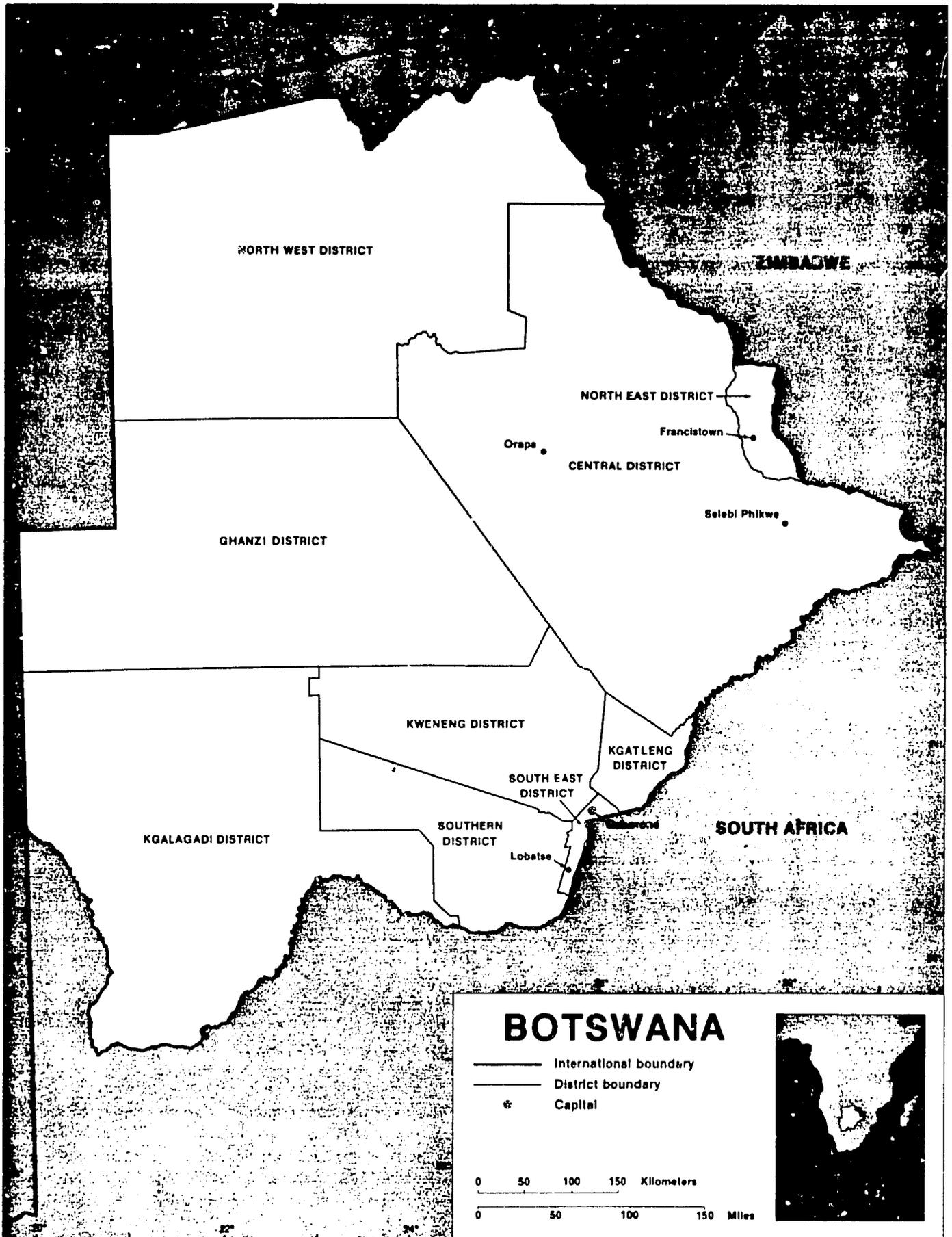
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Symbols used in tables

— Represents zero.

Hyphen vs. "to" in dates.
"—" in dates (e.g., 1964-71) indicates data shown refer to an average for the period.
"to" in dates (e.g., 1950 to 1980) indicates data are shown for intermediate years or periods.

NA Data not available.
X Not applicable.
Z Value is less than one-half of the smallest unit shown in a given category.



U.S. DEPARTMENT OF COMMERCE Bureau of the Census

Names and boundary representation are not necessarily authoritative

Botswana

HIGHLIGHTS

Botswana became an independent republic in September 1966. Formerly known as the Bechuanaland Protectorate, the country had been under British sovereignty since 1885. It is an entirely landlocked country in southern Africa bordering Zimbabwe, Namibia, South Africa, and the disputed territory known as the Caprivi Strip. Most of Botswana's 1980 population of 795 thousand people live in the eastern part of the country, where the combination of fertile land and sufficient rainfall makes the area suitable for cultivation and livestock. Much of the country is part of the Kalahari Semi-Desert. Also, there is a large area called the Okavango Swamps in the northwest portion of the country.

The estimated population of present-day Botswana has nearly doubled in the past 30 years (see figure 2). Current projections of the population indicate that the population will double again in approximately 20 years if fertility levels remain high.

Traditionally, the majority of persons in Botswana have been engaged in subsistence agriculture, with few opportunities for cash employment, while migrant laborers have gone to South Africa and elsewhere to work in either the mines, manufacturing, or agriculture. This continuing migration is primarily temporary, with the workers returning at the end of their work contracts. Both the 1964 and the 1971 censuses collected data on the "absentee" population. In 1971, absentees constituted 7 percent of the total population and 25 percent of the male population between the ages of 15 and 54 years (see figure 3).

Botswana has had a sizeable influx of refugees in the last few years, principally from Zimbabwe. Most of the refugees appear to stay for a very short time, seeking temporary refuge from political upheavals in their own country. Since the refugees are not considered to be permanent residents, they were not included in the population estimates shown in the profile.

There are no data available on past trends in fertility or mortality. Data from the 1971 census indicate that fertility and mortality were at relatively high levels. These estimates show that women in Botswana have an average of nearly 7 live births during their childbearing years, although close to 10 percent of the infants die during the first year of life. The expectation of life at birth estimated from 1971 census data for both sexes combined was 55 years. With crude birth and death rates of 47 and 15 per 1,000 population, respectively, the rate of natural increase was 3.2 percent in 1971. Thus, without the effect of net emigration, the growth rate of the population of Botswana would have been considerably higher

than was estimated based on census data (1.9 percent for the 1964-71 intercensal period).

A family planning program was instituted in Botswana in 1969. The number of new acceptors has been growing steadily, but there are indications that the incidence of discontinuation is quite high.

Botswana is a predominantly rural country. Despite an average annual growth between 1964 and 1971 of 13 percent in the areas classified as urban in 1971, less than 10 percent of the 1971 population was urban. None of these urban areas had a population of 20,000 or more people.

School enrollment increased significantly during the 1970's (see figure 4). This growth will probably continue into the near future as more and more schools are opened. Recent data show more females than males enrolled in both primary and secondary school.

INTRODUCTION

This profile of the population of Botswana contains tables of selected demographic information, including size of population and estimates of fertility and mortality. Specifically, annual estimates of total population are shown beginning in 1950. An adjusted distribution of the population, by age and sex, is given for 1971 and 1980. Projections of the number of women of childbearing age are shown for each year, 1975 to 1990.

Fertility measures shown in the profile include crude birth rates, age-specific fertility rates, and gross and net reproduction rates. Mortality is shown in terms of crude death rates, life expectancies at birth, infant mortality rates, and other life table functions, by age and sex.

Also presented is summary information on family planning, urban population, and marital status, and some data from which the extent of past migration can be inferred. Other related items are included such as school enrollment, educational attainment, and labor force by industry and occupation.

SOURCES AND QUALITY OF DATA

Data for the Botswana profile were obtained from the April 1, 1964, and August 31, 1971, population censuses. Six censuses were conducted prior to 1964 in present-day Botswana—the first dating back to 1904. The accuracy of data from the first six censuses is doubtful. In these censuses, people were enumerated by assembling them in their villages and having them counted by the village headmen, local

teachers, or government clerks. This often required that people leave their farms or cattle and travel long distances. There are indications of underenumeration, and data on age are very limited; sometimes the population was divided into only two age groups: those under the age of 15 and those 15 years and over.

The 1964 census was the first to use house-to-house enumeration. The 1964 and 1971 censuses are believed to be of significantly higher quality than the preceding counts. Both of these censuses provide information on the reported number of absentees at the time of the census (primarily persons working in South Africa who are expected to return to Botswana).

Examination of the age-sex distributions and a comparison of various indices suggest that age misreporting was significant in both censuses. By applying analytical techniques to the age-sex data of the 1971 census, the census population was adjusted for both possible age misreporting and an estimated net underenumeration of 4.8 percent (see census evaluation discussion in the Technical Notes and table 2 for the 1971 adjusted census population).

There is a law providing for vital registration in Botswana, but it has been in effect only since the early 1970's. The law provides for compulsory registration of births, deaths, and marriages in the town of Lobatse, Gaborone, and Francistown and for voluntary registration in the remainder of the country (UNECA, 1971). Data from this system are not of sufficient quality to be used in the analysis of fertility and mortality. The data used in this profile to estimate fertility and mortality are from the 1971 census.

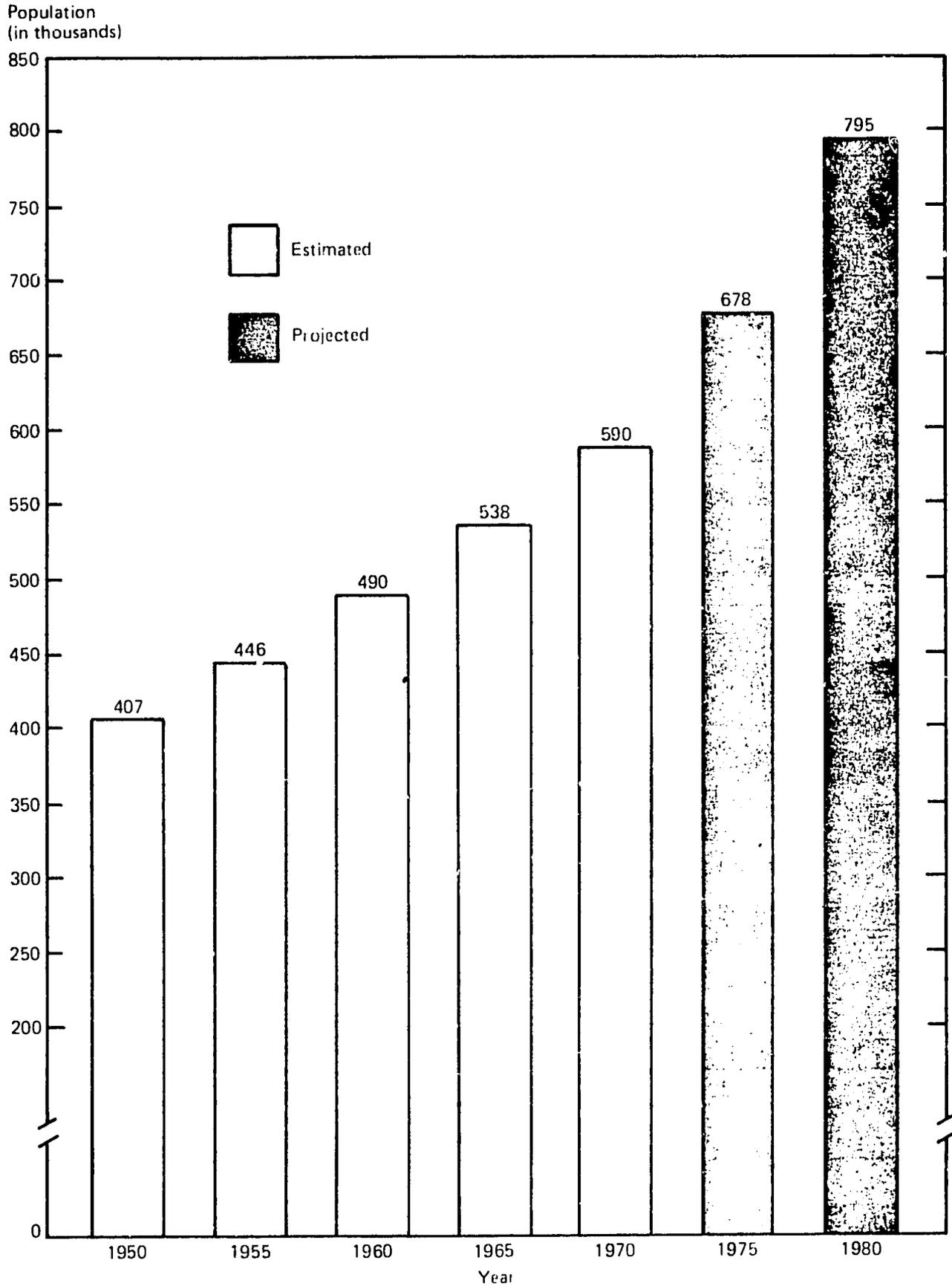
Organized family planning was first initiated in Botswana in 1969. Although the number of acceptors is still quite low, it has increased steadily over the last few years. The Family Planning Follow-Up Study was conducted in 1975 by the

Association of Medical Missions of Botswana and the National Research Institute of the University of Botswana and Swaziland, with support from the Pathfinder Fund. The study involved a follow-up of 200 new family planning acceptors who enrolled in the national family planning program between May and September of 1976. Although the group study cannot be assumed to be representative of the whole country, it did provide valuable insights into the level of and reasons for discontinuation of the use of contraception.

Population data shown in tables 1, 2, and 6 and appendix table A-1 are based on the adjusted 1971 census population. Other population figures in the profile are unadjusted numbers as reported in the sources cited. It should also be noted that data shown in the profile are limited to the population present at the time of the census, with the exception of table 23 and those tables that deal specifically with absentees or refugees. There are official estimates of the number of nomads omitted from the 1964 and 1971 enumerated population. These estimates are included in the populations shown in table 22. The estimated nomads for 1971 are also included in the adjusted population in table 2.

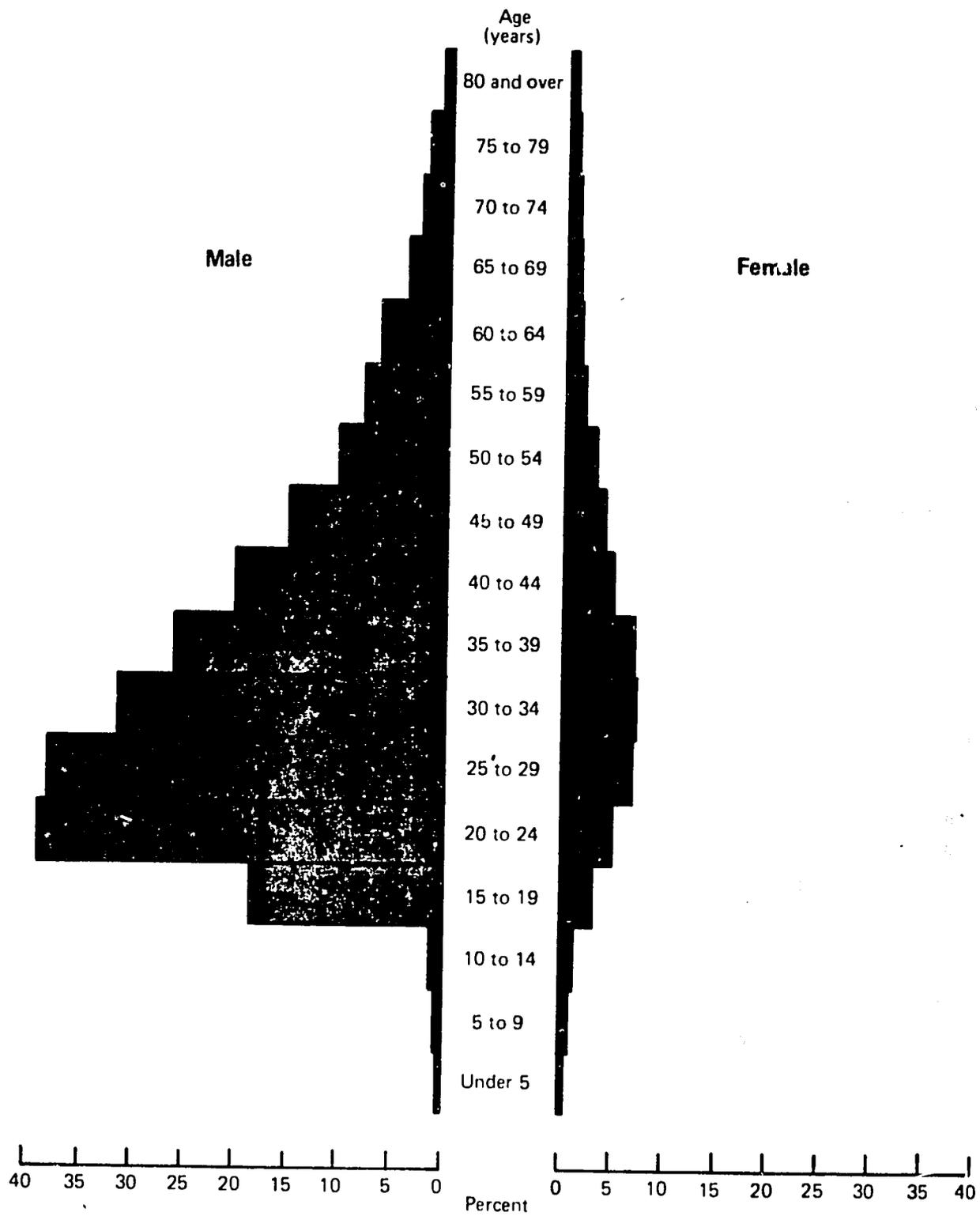
The user should recognize that in many instances, although the estimates are the best that can be provided on the basis of available information, they are only tentative and new observations may lead to different conclusions. The user is urged to consider all data in the context of the source notes which describe how the figures were derived. Complete documentation, including worksheets and other notes on all sources considered, is maintained in the International Demographic Data Center. The user who has special interest in the data is invited to correspond with the International Demographic Data Center for further details, as well as to offer comments.

**Figure 2. Estimates and Projections of Midyear Population:
Selected Years, 1950 to 1980**



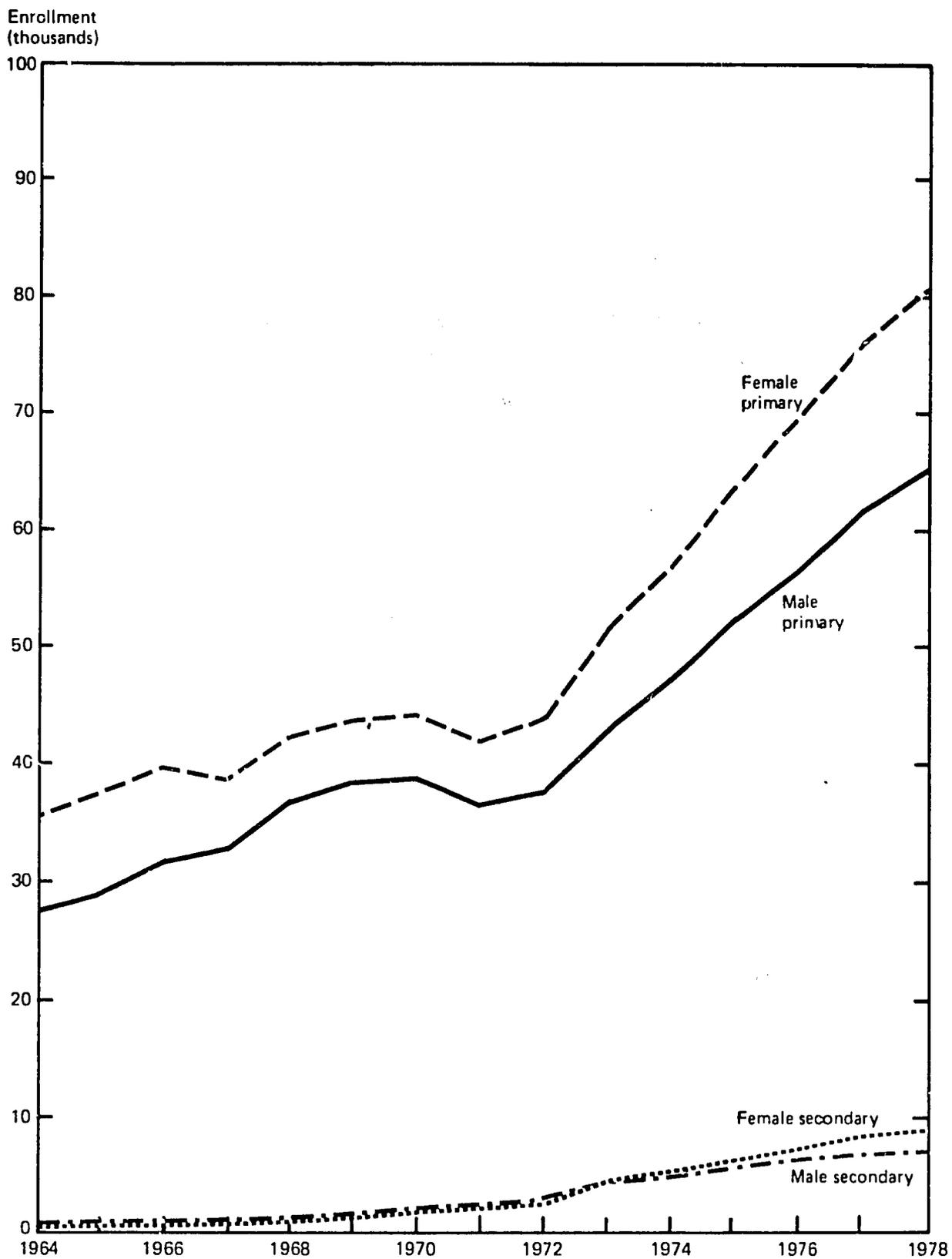
Source: Table 1.

Figure 3. Percent of De Jure Population Temporarily Absent, by Age and Sex: 1971



Source: Tables 2 and 23.

**Figure 4. Enrollment In Primary and Secondary Schools, by Sex:
1964 to 1978**



Source: Table 14.

Table 1. Estimates and Projections of Midyear Population and Period Growth Rates: 1950 to 1980

(Numbers in thousands. Growth rates, in percent, are from midyear to midyear. Excludes absentees)

Year or period	Number or percent	Year or period	Number or percent	Year or period	Number or percent
POPULATION		POPULATION—Con.		POPULATION—Con.	
Estimates		Estimates--Con.		Projections--Con.	
1950.....	406.9	1965.....	537.6	1976.....	699.2
1951.....	414.5	1966.....	547.7	1977.....	721.6
1952.....	422.3	1967.....	558.0	1978.....	745.0
1953.....	430.2	1968.....	568.4	1979.....	769.3
1954.....	438.3	1969.....	579.1	1980.....	794.7
1955.....	446.5	1970.....	589.9	AVERAGE ANNUAL GROWTH RATE¹	
1956.....	454.9	1971.....	601.0		
1957.....	463.4	Projections		1950-55.....	1.9
1958.....	472.1			1955-60.....	1.9
1959.....	480.9	1972.....	618.8	1960-65.....	1.9
1960.....	489.9	1973.....	637.6	1965-70.....	1.9
1961.....	499.1	1974.....	657.2	1970-75.....	2.8
1962.....	508.5	1975.....	677.7	1975-80.....	3.2
1963.....	518.0				
1964.....	527.7				

¹The average annual rate of growth, r , is computed by the exponential formula,

$$r = \frac{1}{n} \ln \frac{p^{t+n}}{p^t}$$

where \ln indicates the natural logarithm, p^{t+n} = the population at the end of the period, p^t = the population at the beginning of the period, and n = time (number of years in the period).

Source: The 1950 to 1971 estimates are based on the results of the 1964 and 1971 censuses, adjusted for estimated net underenumeration. The 1971 census was adjusted at the U.S. Bureau of the Census for 4.8 percent net underenumeration based on techniques of demographic analysis. The net underenumeration in the 1964 census was assumed to be the same as that estimated for the 1971 census. See the census evaluation section of the Technical Notes for further discussion. Population estimates for years prior to 1964 were derived by assuming that the 1964-71 intercensal growth rate had been constant since 1950.

The 1972 to 1980 population figures were projected by the component method. The base of the projection was the 1971 midyear population, by age and sex. Fertility, mortality, and migration assumptions for this projection are discussed in the Technical Notes and are presented in appendix table A-2.

Table 2. Enumerated and Adjusted Census Population, by Age and Sex: August 1971

(Numbers in thousands. Figures may not add to totals due to rounding. For meaning of symbols, see page IV. Excludes absentees)

Age	Enumerated population			Adjusted population		
	Both sexes	Male	Female	Both sexes	Male	Female
POPULATION						
All ages.....	574.0	262.1	312.0	602.8	277.1	325.7
0 to 4 years.....	98.2	48.3	49.9	115.2	57.8	57.4
5 to 9 years.....	91.0	45.2	45.8	93.7	46.7	47.0
10 to 14 years.....	75.3	37.0	38.3	77.3	37.5	39.7
15 to 19 years.....	55.3	24.5	30.8	60.0	27.2	32.8
20 to 24 years.....	37.8	13.3	24.4	42.8	16.2	26.5
25 to 29 years.....	31.4	11.9	19.6	35.2	13.3	21.9
30 to 34 years.....	27.0	11.0	16.0	30.2	12.0	18.2
35 to 39 years.....	25.0	10.3	14.7	26.3	11.0	15.3
40 to 44 years.....	21.5	9.5	12.0	23.7	10.4	13.3
45 to 49 years.....	21.5	9.6	11.8	20.5	9.2	11.3
50 to 54 years.....	16.4	7.9	8.5	17.9	8.3	9.5
55 to 59 years.....	13.7	6.4	7.3	15.2	7.1	8.0
60 to 64 years.....	11.4	5.3	6.1	12.4	5.8	6.6
65 to 69 years.....	10.1	4.7	5.4	10.0	4.7	5.3
70 to 74 years.....	7.5	3.5	4.0	7.7	3.6	4.1
75 to 79 years.....	5.0	2.2	2.7	5.6	2.6	3.0
80 years and over.....	8.6	3.4	5.2	9.2	3.6	5.5
Unknown age.....	17.5	8.1	9.4	(X)	(X)	(X)
PERCENT						
All ages.....	100.0	100.0	100.0	100.0	100.0	100.0
0 to 4 years.....	17.1	18.4	16.0	19.1	20.9	17.6
5 to 9 years.....	15.9	17.2	14.7	15.5	16.8	14.4
10 to 14 years.....	13.1	14.1	12.3	12.8	13.5	12.2
15 to 19 years.....	9.6	9.3	9.9	10.0	9.8	10.1
20 to 24 years.....	6.6	5.1	7.8	7.1	5.9	8.1
25 to 29 years.....	5.5	4.5	6.3	5.8	4.8	6.7
30 to 34 years.....	4.7	4.2	5.1	5.0	4.3	5.6
35 to 39 years.....	4.4	3.9	4.7	4.4	4.0	4.7
40 to 44 years.....	3.8	3.6	3.9	3.9	3.8	4.1
45 to 49 years.....	3.7	3.7	3.8	3.4	3.3	3.5
50 to 54 years.....	2.9	3.0	2.7	3.0	3.0	2.9
55 to 59 years.....	2.4	2.4	2.3	2.5	2.6	2.5
60 to 64 years.....	2.0	2.0	2.0	2.1	2.1	2.0
65 to 69 years.....	1.8	1.8	1.7	1.7	1.7	1.6
70 to 74 years.....	1.3	1.3	1.3	1.3	1.3	1.3
75 to 79 years.....	0.9	0.9	0.9	0.9	0.9	0.9
80 years and over.....	1.5	1.3	1.7	1.5	1.3	1.7
Unknown age.....	3.0	3.1	3.0	(X)	(X)	(X)

Source: Enumerated population as reported in Botswana CSO, 1972, table 9.

For a description of the adjustment of the census, see the census evaluation section of the Technical Notes.

Table 3. Estimated Vital Rates: 1971

(Excludes absentees)

Year	Births per 1,000 population	Deaths per 1,000 population	Rate of natural increase (percent)	Growth rate (percent)
1971.....	47	15	3.2	2.4

Note: For alternate estimates, see appendix table A-3; for projected vital rates, see appendix table A-2.

Source: The crude birth rate for 1971 was estimated at the U.S. Bureau of the Census using age-specific fertility rates (see table 7) and the midyear population, by age and sex, based on the 1971 adjusted census population.

The 1971 crude death rate was based on the midyear population and age-sex-specific death rates from 1971 life tables estimated at the U.S. Bureau of the Census. Life tables, by sex, for 1971 were derived using the estimated 1964-71 life tables (see table 5) and assumed trends in mortality during the period. This death rate is consistent with a life expectancy at birth of 53 years for males and 59 years for females. See the mortality section of the Technical Notes for further discussion.

The difference between the growth rate and the rate of natural increase is due to the effect of net international migration. See the migration section of the Technical Notes for further discussion.

Table 4. Estimated Infant Mortality Rates and Life Expectancies at Birth, by Sex: 1964-71

Period	Infant deaths per 1,000 live births			Life expectancy at birth (years)		
	Both sexes	Male	Female	Both sexes	Male	Female
1964-71.....	97	103	91	55	52	58

Source: Infant mortality rates were based on an application of Brass and Sullivan mortality techniques to data on children ever born and children surviving from the 1971 census (Botswana CSO, 1972, table 17.8). For further information see the mortality section of the Technical Notes.

Life expectancies at birth were derived from life tables generated at the U.S. Bureau of the Census, based on official analysis of orphanhood data from the 1971 census and a logit transformation of the Brass African Standard life table (Brass, 1971; Brass and Coale, 1968) as presented in Botswana CSO, 1972. This procedure incorporated the estimates of infant mortality described above. For further details, see the mortality section of the Technical Notes.

The infant mortality rate and life expectancy at birth for both sexes were obtained by weighting the male and female estimates using an assumed sex ratio at birth of 1.03.

Table 5. Estimated Life Tables Values, by Sex: 1964-71

Age Interval (x to x+n)	Male						Female					
	$1,000 \frac{d}{n} x$	l_x	$\frac{d}{n} x$	L_x	$1,000 \frac{m}{n} x$	e_x	$1,000 \frac{d}{n} x$	l_x	$\frac{d}{n} x$	L_x	$1,000 \frac{m}{n} x$	e_x
0 to 1 year.....	103.0	100,000	10,300	93,099	110.6	52.3	91.0	100,000	9,100	93,839	97.0	58.3
1 to 5 years.....	70.2	89,700	6,297	342,125	18.4	57.3	52.8	90,900	4,800	351,006	13.7	63.1
5 to 10 years.....	32.4	83,403	2,702	410,259	6.6	57.5	22.1	86,100	1,903	425,745	4.5	62.5
10 to 15 years.....	12.4	80,701	1,001	401,002	2.5	54.4	10.7	84,198	901	418,735	2.2	58.9
15 to 20 years.....	18.8	79,700	1,498	394,754	3.8	50.0	14.4	83,297	1,199	413,484	2.9	54.5
20 to 25 years.....	26.5	74,202	2,104	385,749	5.4	45.9	18.3	82,097	1,502	406,730	3.7	50.2
25 to 30 years.....	27.6	76,098	2,100	375,239	5.6	42.1	19.9	80,595	1,604	398,964	4.0	46.1
30 to 35 years.....	28.4	73,998	2,102	364,735	5.8	38.2	20.3	78,991	1,604	390,945	4.1	42.0
35 to 40 years.....	32.0	71,896	2,301	353,729	6.5	34.3	23.3	77,387	1,803	382,429	4.7	37.8
40 to 45 years.....	38.8	69,595	2,700	341,226	7.9	30.3	26.5	75,584	2,003	372,913	5.4	33.7
45 to 50 years.....	47.8	66,895	3,198	326,482	9.8	26.5	34.0	73,581	2,502	361,651	6.9	29.5
50 to 55 years.....	62.8	63,698	4,000	308,487	13.0	22.7	45.0	71,079	3,199	347,400	9.2	25.5
55 to 60 years.....	85.4	59,697	5,098	285,741	17.8	19.0	58.9	67,881	3,998	329,408	12.1	21.6
60 to 65 years.....	124.5	54,599	6,798	256,002	26.6	15.6	89.2	63,683	5,698	305,167	18.7	17.8
65 to 70 years.....	173.6	47,802	8,298	218,262	38.0	12.4	127.1	56,184	7,395	272,433	27.2	14.2
70 to 75 years.....	265.8	39,503	10,500	171,266	61.3	9.5	198.8	50,789	10,097	228,703	44.2	11.0
75 to 80 years.....	382.8	29,003	11,102	117,260	94.7	7.0	304.7	40,692	12,399	172,464	71.9	8.1
80 years and over..	1,000.0	17,901	17,901	86,708	206.4	4.8	1,000.0	28,293	28,293	155,424	182.0	5.5

Note: x = Exact age at beginning of age interval, in years.
 n = Length of age interval, in years.

$1,000 \frac{d}{n} x$ = Number of deaths occurring between age x and age $x+n$ per 1,000 persons alive at age x ; calculated as $\frac{\frac{d}{n} x}{l_x} \times 1,000$.

l_x = Number of persons living at age x .

$\frac{d}{n} x$ = Number of deaths occurring between age x and age $x+n$.

L_x = Number of persons living between age x and age $x+n$.

$1,000 \frac{m}{n} x$ = Number of deaths occurring between age x and age $x+n$ per 1,000 persons living between age x and age $x+n$; calculated as $\frac{\frac{d}{n} x}{L_x} \times 1,000$.

e_x = Average number of years of life remaining for those alive at age x .

Source: See table 4 and the mortality section of the Technical Notes.

Table 6. Estimated and Projected Number of Women of Childbearing Age: 1971, and 1975 to 1990

(Midyear population in thousands. Figures may not add to totals due to rounding. Excludes absentees)

Year	All women, 15 to 49 years	15 to 19 years	20 to 24 years	25 to 29 years	30 to 34 years	35 to 39 years	40 to 44 years	45 to 49 years
ESTIMATED								
1971.....	139.0	32.7	26.4	21.9	18.1	15.3	13.3	11.3
PROJECTED								
1975.....	157.9	37.3	30.5	24.8	20.8	17.1	14.8	12.6
1976.....	163.0	38.4	31.6	25.6	21.5	17.7	15.3	13.0
1977.....	168.3	39.6	32.7	26.5	22.1	18.3	15.7	13.3
1978.....	173.7	40.8	33.8	27.5	22.8	18.9	16.1	13.7
1979.....	179.3	42.0	34.9	28.5	23.6	19.6	16.6	14.1
1980.....	185.1	43.2	36.1	29.6	24.3	20.3	17.1	14.5
1981.....	191.2	44.6	37.2	30.7	25.1	21.0	17.7	14.9
1982.....	197.5	46.1	38.3	31.7	26.1	21.6	18.3	15.4
1983.....	204.1	47.7	39.5	32.8	27.0	22.3	18.9	15.8
1984.....	210.9	49.3	40.6	33.9	28.1	23.0	19.6	16.3
1985.....	217.8	50.9	41.9	35.0	29.1	23.8	20.3	16.8
1986.....	224.7	52.3	43.2	36.1	30.2	24.6	21.0	17.3
1987.....	232.3	54.0	44.7	37.2	31.2	25.5	21.7	17.9
1988.....	240.2	55.9	46.2	38.3	32.3	26.5	22.4	18.6
1989.....	248.4	57.8	47.8	39.5	33.4	27.5	23.1	19.2
1990.....	256.9	59.9	49.4	40.7	34.5	28.5	23.9	19.9

Source:

1971 - Based on the adjusted 1971 census, by age and sex, moved to midyear.

1975 to 1990 - Projected based on the estimated 1971 midyear female population, by age, and the following assumptions:

Fertility: Total fertility rate per woman remained constant at 6.81 from 1971 to 1975, consistent with the projection series shown in table 1. Assumptions regarding fertility affect the projected number of women ages 15 to 19 only for the years 1986 to 1990. The sex ratio at birth was assumed to be 1.03. See fertility section in the Technical Notes.

Mortality: Life expectancy at birth for women increased from 58 years in 1971 to 65 years in 1990.

Migration: The proportion of absentees, i.e., temporary out-migrants, in each age group was held constant at the level recorded in the 1971 census (see tables 2 and 23). The implied number of absentees increased from year to year due to population increase. Other net international migration was assumed to be nil, and estimated refugees (see appendix table A-6) were excluded.

Table 7. Estimated Age-Specific Fertility Rates and Selected Derived Measures: 1971

Age	Births per 1,000 women	Derived measures	
15 to 19 years.....	120	Total fertility rate per woman.....	6.81
20 to 24 years.....	292	Gross reproduction rate per woman.....	3.35
25 to 29 years.....	288	Net reproduction rate per woman.....	2.70
30 to 34 years.....	252	Sex ratio at birth.....	1.03
35 to 39 years.....	203		
40 to 44 years.....	139		
45 to 49 years.....	68		

Note: For alternate estimates of total and age-specific fertility rates, see appendix table A-4.

Source: Total and age-specific fertility rates were obtained from the application of the P/F ratio technique to data from the 1971 census. See further discussion in the fertility section of the Technical Notes.

The sex ratio at birth was assumed to be 1.03 (United Nations, 1968, p. 12).

The gross reproduction rate was based on the total fertility rate and the sex ratio at birth.

The net reproduction rate was calculated using the age-specific fertility rates, the sex ratio at birth, and projected L_n values for females for 1971 (see mortality section in the Technical Notes).

Table 8. Women Ages 15 to 49 Years, by Number of Children Ever Born, Average Number of Children Ever Born, and Average Number of Children Surviving: 1971

(Numbers in thousands. Figures may not add to totals due to rounding. For meaning of symbols, see page IV. Excludes absentees)

Age	Total	Number of children ever born								Average number of children ever born per woman	Average number of children surviving per woman
		0	1	2	3	4	5	6	7 or more		
All women, 15 to 49 years.....	125.2	36.9	17.3	14.4	12.4	10.5	9.1	7.6	17.1	2.9	2.4
15 to 19 years.....	28.8	24.8	3.4	0.6	0.1	-	-	-	-	0.2	0.2
20 to 24 years.....	23.5	6.6	7.5	5.5	2.5	0.9	0.3	0.1	(2)	1.4	1.2
25 to 29 years.....	19.2	2.1	2.6	3.8	4.3	3.2	1.7	0.8	0.6	2.8	2.4
30 to 34 years.....	15.7	1.1	1.2	1.6	2.1	2.6	2.6	2.0	2.4	4.2	3.5
35 to 39 years.....	14.5	0.9	0.9	1.1	1.4	1.7	2.0	2.1	4.4	5.0	4.2
40 to 44 years.....	11.8	0.7	0.7	0.8	1.1	1.1	1.3	1.4	4.7	5.6	4.5
45 to 49 years.....	11.6	0.8	0.9	0.9	0.9	1.0	1.2	1.2	4.8	5.6	4.4

Note: Excludes 4,216 women 15 to 49 years of age who did not report the number of children ever born and 9,412 women who did not state their age.

Source: Based on 1971 census data as reported in Botswana CSO, 1972, tables 39 and 41.

Table 9. Distribution of Births, by Order of Birth: 1970-71

(Figures may not add to totals due to rounding. For meaning of symbols, see page IV. Excludes births to absentees)

Birth order	Number	Percent
All orders.....	22,291	100.0
1st birth.....	4,589	20.6
2nd birth.....	3,688	16.5
3rd birth.....	3,037	13.6
4th birth.....	2,599	11.7
5th birth.....	2,283	10.2
6th birth.....	1,874	8.4
7th birth.....	1,470	6.6
8th birth.....	1,051	4.7
9th birth.....	722	3.2
10th birth and over.....	978	4.4
Median birth order.....	3.4	(X)

Note: Excludes 537 births of unknown order.

Source: Based on information on children born in the 12 months prior to the 1971 census as reported in Botswana CSO, 1972, table 44.

Table 10. Population Ages 15 Years and Over, by Marital Status, Age, and Sex: 1971

(Population in thousands. Figures may not add to totals due to rounding. For meaning of symbols, see page IV. Excludes absentees)

Sex and age	Population					Percent				
	Total	Single	Married	Widowed	Divorced or separated	Total	Single	Married	Widowed	Divorced or separated
MALE										
Total, 15 years and over.....	121.7	53.2	59.4	2.6	6.4	100.0	43.7	48.8	2.2	5.3
15 to 19 years.....	24.2	23.1	0.2	(Z)	1.0	100.0	95.1	0.8	0.2	3.9
20 to 24 years.....	13.1	11.6	1.1	(Z)	0.5	100.0	88.0	8.3	0.2	3.5
25 to 29 years.....	11.7	7.2	4.0	0.1	0.4	100.0	61.8	33.9	0.4	3.8
30 to 34 years.....	10.8	4.0	6.3	0.1	0.5	100.0	36.5	58.4	0.7	4.5
35 to 39 years.....	10.1	2.5	7.0	0.1	0.5	100.0	24.4	69.5	0.8	5.3
40 to 44 years.....	9.4	1.5	7.2	0.1	0.6	100.0	16.0	76.8	1.3	5.9
45 to 49 years.....	9.5	1.2	7.5	0.2	0.6	100.0	12.2	79.2	2.3	6.3
50 to 54 years.....	7.8	0.7	6.3	0.2	0.6	100.0	9.3	80.7	2.8	7.2
55 to 59 years.....	6.3	0.5	5.1	0.2	0.4	100.0	8.0	81.2	3.7	7.0
60 years and over.....	18.8	1.1	14.7	1.6	1.4	100.0	5.8	78.4	8.5	7.3
FEMALE										
Total, 15 years and over.....	166.3	61.2	73.6	20.2	11.3	100.0	36.8	44.3	12.2	6.8
15 to 19 years.....	30.5	26.7	2.6	0.1	1.2	100.0	87.3	8.4	0.3	4.0
20 to 24 years.....	24.1	13.6	9.2	0.2	1.2	100.0	56.4	38.1	0.7	4.8
25 to 29 years.....	19.3	7.1	10.8	0.3	1.1	100.0	36.7	56.0	1.6	5.8
30 to 34 years.....	15.8	4.3	9.9	0.5	1.1	100.0	27.2	62.8	3.0	6.9
35 to 39 years.....	14.5	3.0	9.7	0.7	1.2	100.0	20.3	66.7	4.9	8.0
40 to 44 years.....	11.8	2.0	7.8	1.0	1.1	100.0	16.8	65.6	8.7	8.9
45 to 49 years.....	11.7	1.6	7.5	1.5	1.1	100.0	13.5	64.5	12.6	9.4
50 to 54 years.....	8.4	0.9	5.0	1.7	0.8	100.0	10.3	59.6	20.3	9.8
55 to 59 years.....	7.2	0.6	3.9	1.9	0.7	100.0	8.8	54.8	26.9	9.4
60 years and over.....	23.0	1.5	7.2	12.3	1.9	100.0	6.7	31.3	53.7	8.3

Note: Excludes 7,537 males and 8,694 females of unknown age plus 2,352 males and 2,938 females of unknown marital status.

Source: Based on 1971 census data as reported in Botswana CSO, 1972, table 11.

Table 11. Legal Age at Marriage and Ages at Which Specified Percent of the Population Is Ever Married, by Sex: 1971

Item	Male	Female
Minimum legal age at marriage.....	16	16
Age at which 25 percent of the population is ever married.....	25.3	19.5
Age at which 50 percent of the population is ever married.....	29.5	23.6
Age at which 75 percent of the population is ever married.....	36.6	34.1

Note: Parental consent is required for marriage below the age of 21.

Source: The age at which the specified percent of the population is ever married was derived at the U.S. Bureau of the Census by fitting a Makeham curve to data from the 1971 census (Botswana CSO, 1972, table 11). Information on minimum legal age at marriage was received from the Embassy of Botswana, May 1980.

Table 12. Number of New Acceptors of Family Planning in the National Program, by Method: 1973 to 1977

(In thousands. Figures may not add to totals due to rounding. For meaning of symbols, see page IV)

Method	1973	1974	1975	1976	1977
All methods.....	3.7	4.6	6.2	11.4	11.3
Oral contraceptives.....	3.4	4.0	4.9	5.2	5.6
IUD's.....	0.1	0.4	1.1	1.1	1.1
Sterilization.....	(2)	0.1	0.1	0.2	(NA)
Other.....	0.2	0.2	0.1	5.0	4.6

Note: Data are not available on how many or for how long new acceptors continue to use contraception. A 10-month follow-up study in 1976 of 200 new acceptors at seven selected clinics showed 45 percent of the sample not using contraception at the end of the study period (Stephens, 1978).

Source: Data are reported in Nortman and Hofstatter, 1979, table 16.

Table 13. Population Ages 5 to 19 Years Enrolled in School, by Age and Sex: 1971

(Population in thousands. Figures may not add to totals due to rounding. Excludes absentees)

Age	Both sexes			Male			Female		
	Total population	Enrolled in school		Total population	Enrolled in school		Total population	Enrolled in school	
		Number	Percent of total		Number	Percent of total		Number	Percent of total
Total, 5 to 19 years..	220.7	70.8	32.1	106.3	32.0	30.1	114.5	38.9	34.0
5 to 9 years.....	90.8	18.7	20.6	45.1	8.6	19.1	45.7	10.1	22.0
10 to 14 years...	74.9	35.4	47.2	36.8	15.3	41.5	38.1	20.1	52.8
15 to 19 years...	55.0	16.8	30.5	24.4	8.1	33.1	30.7	8.7	28.4

Note: Excludes 8,091 males and 9,412 females who did not state their age, and 450 males and 481 females who did not state whether or not they were enrolled in school.

Source: Based on the 1971 census data as reported in Botswana CSO, 1972, table 16.

Table 14. Enrollment in Primary and Secondary Schools, by Sex: 1964 to 1978

(Numbers in thousands. For meaning of symbols, see page IV)

Year	Primary schools		Secondary schools			
			General secondary schools		Private schools and continuation classes	
	Male	Female	Male	Female	Male	Female
1964.....	27.5	35.3	0.6	0.4	(NA)	(NA)
1965.....	28.9	37.2	0.7	0.6		
1966.....	31.8	39.8	0.8	0.7		
1967.....	32.8	38.7	1.0	0.8		
1968.....	36.7	42.2	1.3	1.0		
1969.....	38.5	43.7	1.7	1.4		
1970.....	38.9	44.1	2.1	1.8		
1971.....	36.6	41.9	2.5	2.3		
1972.....	37.8	43.9	2.9	2.6	1.1	1.5
1973.....	43.7	51.9	3.3	2.9	1.3	1.9
1974.....	47.1	56.6	3.7	3.4	1.4	2.3
1975.....	52.3	63.9	4.3	4.1	1.7	2.7
1976.....	56.4	69.2	4.7	4.8	1.9	3.3
1977.....	61.6	75.7	5.0	5.2	1.7	3.2
1978.....	65.2	80.2	5.4	5.7		

Source: Data for 1964 to 1971 are reported in Botswana CSO, no date, tables 10 and 11. Data for 1972 to 1978 are reported in Botswana CSO, 1979, table 6.

Table 15. Population Ages 15 Years and Over Who Have Attended School, by Level, Age, and Sex: 1971

(Population in thousands. Figures may not add to totals due to rounding. For meaning of symbols, see page IV. Excludes absentees)

Sex and age	Total population ¹	Persons who have attended at least— ²									
		Standard 4 of primary school		Standard 6 of primary school		Form 3 of secondary school		Form 5 of secondary school		Higher level	
		Number	Percent of total	Number	Percent of total	Number	Percent of total	Number	Percent of total	Number	Percent of total
BOTH SEXES											
Total, 15 years and over.....	292.1	71.4	24.5	48.3	16.5	8.7	3.0	3.5	1.2	1.6	0.5
15 to 19 years.....	55.3	25.9	46.9	19.3	34.9	2.0	3.5	0.3	0.5	0.1	0.1
20 to 24 years.....	37.8	15.1	40.1	11.6	30.7	2.0	5.3	0.8	2.0	0.3	0.7
25 to 29 years.....	31.4	9.0	28.5	6.1	19.3	1.4	4.3	0.6	2.0	0.3	0.9
30 to 34 years.....	27.0	5.9	21.9	3.4	12.6	0.9	3.5	0.5	1.7	0.2	0.9
35 to 39 years ³	25.0	4.5	18.2	2.4	9.6	0.7	2.9	0.3	1.3	0.2	0.7
40 to 44 years.....	21.5	3.7	17.0	1.8	8.5	0.6	2.6	0.3	1.3	0.2	0.7
45 to 49 years.....	21.5	2.8	13.0	1.5	6.8	0.5	2.3	0.3	1.3	0.1	0.7
50 years and over.....	72.6	4.5	6.2	2.3	3.1	0.7	0.9	0.4	0.6	0.2	0.3
MALE											
Total, 15 years and over.....	123.5	30.6	24.8	22.7	18.4	5.1	4.1	2.2	1.7	1.0	0.8
15 to 19 years.....	24.5	10.5	43.0	7.9	32.2	0.9	3.6	0.1	0.6	(2)	0.1
20 to 24 years.....	13.3	5.7	42.7	4.9	36.7	1.1	8.3	0.4	3.1	0.2	1.1
25 to 29 years.....	11.9	3.9	33.1	3.2	27.1	0.8	7.0	0.4	3.5	0.2	1.7
30 to 34 years.....	11.0	2.8	25.4	2.0	18.0	0.6	5.6	0.3	2.9	0.2	1.5
35 to 39 years ³	10.3	2.1	20.5	1.4	13.6	0.5	4.7	0.2	2.1	0.1	1.1
40 to 44 years.....	9.5	1.7	17.5	1.0	10.6	0.4	4.0	0.2	2.0	0.1	1.1
45 to 49 years.....	9.6	1.4	14.1	0.8	8.8	0.3	3.3	0.2	1.8	0.1	1.0
50 years and over.....	33.4	2.5	7.6	1.5	4.4	0.5	1.4	0.3	0.9	0.2	0.5
FEMALE											
Total, 15 years and over.....	168.6	40.9	24.2	25.6	15.2	3.6	2.1	1.3	0.8	0.5	0.3
15 to 19 years.....	30.8	15.4	50.0	11.4	36.9	1.1	3.4	0.2	0.5	(2)	0.1
20 to 24 years.....	24.4	9.4	38.7	6.7	27.4	0.9	3.7	0.3	1.4	0.1	0.5
25 to 29 years.....	19.6	5.0	25.8	2.8	14.5	0.5	2.7	0.2	1.1	0.1	0.5
30 to 34 years.....	16.0	3.1	19.6	1.4	8.9	0.3	2.0	0.1	0.9	0.1	0.5
35 to 39 years ²	14.7	2.4	16.6	1.0	6.8	0.2	1.6	0.1	0.8	0.1	0.4
40 to 44 years.....	12.0	2.0	16.5	0.8	6.8	0.2	1.5	0.1	0.8	(2)	0.3
45 to 49 years.....	11.8	1.4	12.1	0.6	5.2	0.2	1.4	0.1	0.8	(2)	0.4
50 years and over.....	39.1	2.0	5.0	0.8	2.1	0.2	0.5	0.2	0.4	0.1	0.2

¹Excludes 8,091 males and 9,412 females who did not state their age.²Excludes 926 males and 938 females who did not state their age, and 3,431 males and 3,004 females who did not state the level of education attained.³Includes 38 males and 20 females who are 35 years of age and over and are attending school.

Note: Data shown for this table are cumulative. For example, persons having attended higher level education are also included in the primary and secondary school categories.

Before 1964 primary school consisted of 8 grades. The first classes were called Substandards A and B and the courses then ran from Standard 1 to Standard 6. In 1964 the system was reorganized to last 7 years, with classes running from Standard 1 to Standard 7. The 1971 census question on educational attainment asked for the highest level attended, with no correction for the change in systems. A person therefore completing primary school prior to 1964 would probably report Standard 6 rather than Standard 7.

Primary school was subdivided into Standards 4 and 6. A persons who attended Standard 4 or higher would have completed at least 3 and perhaps 6 years of primary school. It was decided that Standard 4 would be a rough approximation of the literate population. A person who attended Standard 6 or higher would have completed at least 5 years and perhaps 8 years of primary school. Secondary school consists of 5 Forms (grades). Since schools with 5 years of secondary school are not available to the entire population, secondary education was subdivided into Forms 3 and 5. Higher education is assumed to refer to any education beyond the 5 years of secondary school.

Source: Based on 1971 census data as reported in Botswana CSO, 1972, tables 10, 19, and 21.

Table 16. Economically Active Population, by Nature of Activity, Age, and Sex: 1971

(Population in thousands. Figures may not add to totals due to rounding. Excludes absentees)

Sex and age	Total population ¹	Economically active			
		Population working in family agriculture ²		Population working for cash ³	
		Number	Percent of total	Number	Percent of total
MALE					
Total, 10 years and over.	160.5	107.1	66.7	37.6	23.4
10 to 14 years.....	37.0	24.0	64.8	1.0	2.6
15 to 24 years.....	37.8	24.2	64.0	7.3	19.2
25 to 34 years.....	22.9	13.6	59.4	10.3	45.2
35 to 44 years.....	19.8	13.1	66.3	8.1	40.9
45 to 54 years.....	17.6	12.7	72.5	6.0	34.3
55 years and over.....	25.5	19.5	76.5	4.9	19.2
FEMALE					
Total, 10 years and over.	206.9	140.5	67.9	12.0	5.8
10 to 14 years.....	38.3	22.3	58.2	0.4	1.2
15 to 24 years.....	55.3	36.5	66.0	4.7	8.5
25 to 34 years.....	35.6	24.9	69.9	3.4	9.5
35 to 44 years.....	26.7	19.9	74.3	1.9	7.0
45 to 54 years.....	20.3	15.7	77.2	1.0	5.0
55 years and over.....	30.6	21.3	69.6	0.6	1.9

¹Excludes 8,091 males and 9,412 females who did not state their age.²Excludes 5,792 males and 6,440 females who did not state whether or not they had worked in family agriculture, and 3,283 males and 4,355 females who did not state their age.³Excludes 1,482 males and 354 females who did not state their age.

Note: Data for persons working in family agriculture and for persons working for cash reward are not mutually exclusive. There were 18,483 males and 5,010 females who worked both for cash and for family agriculture.

The economically active population includes all persons 10 years of age and over who, during the period January 1, 1971, to August 31, 1971, had worked their own land or family lands or stock, but were not paid in cash; or had worked for cash reward. The gathering of wild foods, subsistence hunting, and subsistence fishing are excluded from the definition of economic activity.

For 1964 census data on economically active population, see appendix table A-9.

Source: Based on 1971 census data as reported in Botswana CSO, 1972, tables 15.1, 23, and 26.

Table 17. Persons Working for Cash, by Industry and Sex: 1971

(Population in thousands. Figures may not add to totals due to rounding. For meaning of symbols, see page IV. Excludes absentees)

Industry	Population			Percent		
	Both sexes	Male	Female	Both sexes	Male	Female
Total classified workers.....	51.1	38.8	12.3	100.0	100.0	100.0
Agriculture, forestry, hunting, and fishing.....	11.6	10.4	1.2	22.6	26.7	9.6
Mining and quarrying.....	2.9	2.8	0.1	5.7	7.3	0.5
Manufacturing.....	3.2	2.6	0.7	6.3	6.6	5.4
Construction.....	4.3	4.2	0.1	8.4	10.7	0.9
Electricity and water.....	0.5	0.4	(Z)	0.9	1.2	0.2
Finance, insurance, real estate, and business services.....	0.4	0.3	0.1	0.8	0.8	0.7
Trade.....	3.3	2.1	1.1	6.4	5.5	9.0
Transport, storage, and communication	2.1	2.0	0.1	4.2	5.2	0.9
Services.....	22.9	14.0	8.9	44.8	36.0	72.7

Note: Excludes 219 males and 77 females who did not state their industry. For 1964 census data on the economically active population by industry, see appendix table A-10.

Source: Data are from the 1971 census as reported in Botswana CSO, 1972, table 30.

Table 18. Persons Working for Cash, by Occupation and Sex: 1964 and 1971

(Population in thousands. Figures may not add to totals due to rounding. For meaning of symbols, see page IV. Excludes absentees)

Year and occupation	Population			Percent		
	Both sexes	Male	Female	Both sexes	Male	Female
1964 ¹						
Total classified workers.....	30.0	23.7	6.4	100.0	100.0	100.0
Professional, technical, and related workers.....	2.6	1.5	1.1	8.6	6.2	17.3
Administrative and managerial workers....	0.4	0.4	(Z)	1.3	1.6	0.4
Clerical workers.....	1.0	0.8	0.2	3.3	3.6	3.1
Sales workers.....	1.4	1.1	0.3	4.7	4.8	4.3
Farmers, fishers, hunters, loggers, and related workers.....	9.6	8.2	1.4	32.0	34.6	22.2
Workers in transport, equipment operators, production-process workers, and laborers.....	9.4	9.1	0.3	31.3	38.6	4.3
Service workers.....	5.6	2.5	3.1	18.7	10.7	48.5
1971						
Total classified workers.....	51.4	39.1	12.4	100.0	100.0	100.0
Professional, technical, and related workers.....	4.3	2.3	2.1	8.4	5.8	16.8
Administrative and managerial workers....	0.7	0.6	0.1	1.3	1.5	0.6
Clerical workers.....	2.6	1.9	0.7	5.1	4.9	5.8
Sales workers.....	3.6	2.4	1.2	7.1	6.2	10.1
Farmers, fishers, hunters, loggers, and related workers.....	10.7	9.9	0.9	20.9	25.3	7.0
Workers in transport, equipment operators, production-process workers, and laborers.....	18.1	16.6	1.5	35.2	42.4	12.4
Service workers.....	11.3	5.5	5.8	22.0	14.0	47.3

¹Excludes 125 males and 10 females of ill-defined or unknown occupation.

Source: Data are from the 1964 and 1971 censuses as reported in Bechuanaland Protectorate, 1965, table XIX, p. 96; and Botswana CSO, 1972, table 15.10, respectively.

Table 19. Number of Occupied Dwellings and Population Per Occupied Dwelling: 1971

(Population excludes absentees)

Measure	Number
Number of occupied dwellings.....	97,937
Population.....	574,094
Mean number of persons per occupied dwelling	5.9

Note: Data for households are not available, but households seem to be conceptually the same as occupied dwellings. A household is "the smallest well defined social unit and...it consists basically of a man with his wife or wives, and their unmarried children, but often includes one or more married sons, brothers or even daughters, with respective families." Every household has its own compound, known as a 'lolwapa'; consisting of one or more huts and a granary within a courtyard....In most cases therefore the household is an easily recognized physical entity and it formed the basic enumeration unit. It is the compound which is referred to as the 'dwelling' and not the individual huts within it, and the people living within the compound are referred to as the household....In some places, particularly in the towns, houses and blocks of flats have servant's quarters built within the same fence or compound. Servant's quarters should be enumerated as separate households. Similarly, each flat in a block should be treated as a separate household."

Source: Based on 1971 census data as reported in Botswana CSO, 1972, pp. 9 and 10 and table 4.

Table 20. Urban and Rural Population, by Age and Sex: 1971

(Population in thousands. Figures may not add to totals due to rounding. Excludes absentees)

Age	Urban ¹			Rural		
	Both sexes	Male	Female	Both sexes	Male	Female
POPULATION						
All ages.....	58.7	29.0	29.7	515.4	233.1	282.2
0 to 4 years.....	8.7	4.2	4.4	89.5	44.1	45.4
5 to 9 years.....	6.9	3.2	3.7	84.1	42.0	42.1
10 to 14 years.....	5.6	2.2	3.3	69.7	34.8	34.9
15 to 19 years.....	6.2	2.4	3.7	49.1	22.0	27.1
20 to 24 years.....	6.4	2.9	3.5	31.3	10.4	20.9
25 to 29 years.....	5.5	2.8	2.7	26.0	9.1	16.9
30 to 34 years.....	4.4	2.4	2.0	22.6	8.6	14.0
35 to 39 years.....	3.5	2.0	1.5	21.5	8.3	13.2
40 to 44 years.....	2.7	1.7	1.1	18.8	7.8	11.0
45 to 49 years.....	2.2	1.4	0.9	19.2	8.3	10.9
50 to 54 years.....	1.5	1.0	0.6	14.9	7.0	7.9
55 to 59 years.....	1.0	0.6	0.4	12.7	5.8	6.9
60 to 64 years.....	0.7	0.4	0.3	10.7	4.9	5.8
65 to 69 years.....	0.5	0.2	0.2	9.6	4.4	5.2
70 to 74 years.....	0.4	0.2	0.2	7.1	3.3	3.8
75 to 79 years.....	0.2	0.1	0.1	4.8	2.1	2.6
80 years and over.....	0.3	0.1	0.2	8.2	3.3	5.0
Unknown age.....	2.0	1.1	0.9	15.5	7.0	8.5
PERCENT²						
All ages.....	100.0	100.0	100.0	100.0	100.0	100.0
0 to 4 years.....	14.8	14.6	15.0	17.4	18.9	16.1
5 to 9 years.....	11.8	11.2	12.4	16.3	18.0	14.9
10 to 14 years.....	9.5	7.7	11.3	13.5	14.9	12.4
15 to 19 years.....	10.5	8.4	12.5	9.5	9.4	9.6
20 to 24 years.....	11.0	10.0	11.9	6.1	4.5	7.4
25 to 29 years.....	9.3	9.6	9.0	5.0	3.9	6.0
30 to 34 years.....	7.5	8.4	6.6	4.4	3.7	5.0
35 to 39 years.....	6.0	6.9	5.1	4.2	3.5	4.7
40 to 44 years.....	4.7	5.8	3.6	3.6	3.4	3.9
45 to 49 years.....	3.8	4.7	3.0	3.7	3.6	3.9
50 to 54 years.....	2.6	3.3	1.9	2.9	3.0	2.8
55 to 59 years.....	1.7	2.0	1.3	2.5	2.5	2.4
60 to 64 years.....	1.2	1.4	1.1	2.1	2.1	2.0
65 to 69 years.....	0.8	0.9	0.7	1.9	1.9	1.8
70 to 74 years.....	0.6	0.7	0.5	1.4	1.4	1.3
75 to 79 years.....	0.3	0.3	0.3	0.9	0.9	0.9
80 years and over.....	0.5	0.4	0.6	1.6	1.4	1.8

¹Comprises the towns of Gaborone, Lobatse, and Francistown and the mining townships of Orapa and Selebi-Pikwe.

²Percent distributions are calculated based on populations of known age.

Note: The total urban population shown here differs from the total shown in table 21. The reason for this discrepancy is not known.

Source: Based on 1971 census data as reported in Botswana CSO, 1972, table 10.

Table 21. Population, by Urban and Rural Residence and Type of Locality: 1971

(Figures may not add to totals due to rounding. For meaning of symbols, see page IV.
Excludes absentees)

Subject	Number	Population	
		Number	Percent
Total country.....	(X)	574,094	100.0
Urban localities.....	5	54,416	9.5
Towns.....	3	48,267	8.4
Lobatse.....	1	11,936	2.1
Gaborone.....	1	17,718	3.1
Francistown.....	1	18,613	3.2
Mining townships.....	2	6,149	1.1
Orapa.....	1	1,209	0.2
Selebi-Pikwe.....	1	4,940	0.9
Rural areas.....	(X)	519,678	90.5
Villages.....	(NA)	285,784	49.8
Lands.....	(NA)	141,608	24.7
Cattle posts.....	(NA)	73,936	12.9
Freehold farms.....	(NA)	17,484	3.0
Other.....	(NA)	866	0.2

Source: Based on 1971 census data as reported in Botswana CSO, 1972, table 4.

Table 22. De Jure and De Facto District Populations and Growth Rates

(Population in thousands. For meaning of symbols, see page IV)

District	De jure ¹			1971 De facto population
	Population		Average annual growth rate, 1964-71 (percent)	
	1964	1971		
Central.....	209.6	234.8	1.5	222.2
Chobe ²	5.1	5.4	0.7	5.1
Francistown.....	9.5	19.9	9.9	18.6
Gaborone.....	3.9	18.4	21.1	17.7
Ghanzi.....	16.4	17.4	0.8	16.7
Kgalagadi.....	16.6	17.3	0.5	16.3
Kgatleng.....	33.1	35.8	1.0	31.2
Kweneng.....	74.0	72.1	-0.4	66.0
Lobatse.....	7.6	12.9	7.1	11.9
Ngamiland ²	42.6	53.9	3.2	51.3
Ngwaketse ²	83.3	91.3	1.2	81.7
North East.....	25.8	28.5	1.4	25.8
South East.....	21.0	22.7	1.0	20.1
Mafeking.....	³ 1.0	(X)	(X)	(X)

¹The 1964 de jure population includes 35,132 absentees and an estimated 11,650 nomads. The 1971 de jure population includes 45,735 absentees and an estimated 10,550 nomads. The de facto population includes the estimate of nomads.

²The districts of Chobe and Ngamiland have been combined and are now known as the North West District. Ngwaketse is now known as the Southern District. See map on page V.

³In 1964 Mafeking, which is located in South Africa, was the capital of Bechuanaland Protectorate and the seat of government.

Source: Data are from the 1964 and 1971 censuses as reported in Botswana CSO, 1972, tables 1 and 13.1.

Table 23. Reported Absentee Population, by Age and Sex: 1964 and 1971

Age	1964			1971		
	Both sexes	Male	Female	Both sexes	Male	Female
All ages.....	35,132	27,693	7,439	45,735	36,661	9,074
0 to 4 years.....	938	468	470	293	140	153
5 to 9 years.....	1,104	529	575	502	248	254
10 to 14 years.....	1,049	531	518	865	433	432
15 to 19 years.....	3,067	2,158	909	4,595	3,659	936
20 to 24 years.....	7,334	6,023	1,311	9,430	8,176	1,254
25 to 29 years.....	7,749	6,446	1,303	8,345	6,992	1,353
30 to 34 years.....	5,035	4,124	911	5,959	4,818	1,141
35 to 39 years.....	3,962	3,291	671	4,536	3,504	1,032
40 to 44 years.....	1,887	1,553	334	2,897	2,287	610
45 to 49 years.....	1,442	1,247	195	2,204	1,734	470
50 to 54 years.....	665	563	102	1,134	881	253
55 to 59 years.....	386	343	43	662	528	134
60 to 64 years.....	223	184	39	435	343	92
65 to 69 years.....	99	79	20	235	173	62
70 to 74 years.....	45	36	9	123	86	37
75 to 79 years.....	24	18	6	61	42	19
80 years and over.....	29	19	10	68	38	30
Unknown age.....	94	81	13	3,391	2,579	812

Note: In 1964, the absentee population included persons normally resident who had left the country intending to return and who had not been absent for a year, and those normally resident who had been absent from 1 to 5 years and who still remitted home tax (Bechuanaland Protectorate, 1965, p. 3). Absentees were defined in 1971 as citizens of Botswana who were absent from the country and who would live in the household if they were in Botswana (Botswana CSO, 1972, pp. 108 and A29).

Source: Data are from the 1964 and 1971 censuses as reported in Bechuanaland Protectorate, 1965, table V, p. 73; and Botswana CSO, 1972, table 12.

Table 24. Persons of Foreign Citizenship, by Country: 1971

Country of citizenship	Number of persons
All countries.....	10,861
Great Britain.....	1,370
Malawi.....	438
Portugal.....	185
South Africa.....	3,358
Zambia.....	927
Zimbabwe ¹	2,683
Other African countries.....	1,405
Other countries.....	495
Population of foreign citizenship as percent of total population.....	1.9

¹Formerly Southern Rhodesia.

Note: Excludes 1,026 persons who did not state their citizenship.

Source: Based on 1971 census data as reported in Botswana CSO, 1972, table 7.

Appendix

Technical Notes

SUMMARY

The demographic data presented in this profile cover the period 1950 to 1980. National vital registration data are not available for these years and there have been no national demographic surveys. Fertility and mortality estimates were derived and the 1971 census was evaluated, after an analysis of the following available census information:

Type of data	1964	1971
Age-sex distribution		
Five-year groups	X	X
Single years	X	X
Children ever born by age of mother		X
Children surviving by age of mother		X
Date of last birth and survival of child by age of mother		X
Marital status		X
Population by sex, age, and parents' survival		X

FERTILITY

Estimates

There are few data sources available from which to derive estimates of fertility for Botswana. Data from the vital registration system are considered to be incomplete, consisting primarily of events that occur in medical facilities. The 1971 census included questions on the number of children ever born and the date of last birth. The 1964 census did not include questions on fertility, but an estimated crude birth rate of 48 per 1,000 population and a total fertility rate (TFR) of 6.5 per woman were derived by Page and Coale (1972, table 9.1 (a)) based on stable population analysis of the 1964 age distribution.

Fertility estimates, based on 1971 census data, were derived by Adegbola (1977, appendix B), Blacker (Botswana CSO, 1972, tables 17.20 and 17.21), and by the U.S. Bureau of the Census. The fertility estimates derived by Adegbola

(TFR of 6.76) were based on stable population analysis of the 1971 census population. A total fertility of 6.5 was derived by Blacker based on the P/F ratio technique, taking into account an analysis of P/F ratios by birth order. Blacker concluded that the TFR of 6.5 represented the normal level of fertility in Botswana. He did point out, however, that there was some indication that fertility had been lower during the intercensal period due to severe drought conditions experienced during the 1960's.

The fertility rates shown in this profile were derived by applying the P/F ratio technique, with the Coale and Trussell modification, based on a second-order polynomial and births to women 15 to 44 years of age¹ (NAS, 1981), to 1971 census data on children ever born and children born in the 12 months prior to the census, adjusted by the El-Badry (1961) technique. The adjustment factor P_3/F_3 was chosen, resulting in a total fertility rate of 6.81.

The population under age 5 enumerated in the 1971 census was lower than expected based on this estimated fertility level. It was assumed that the difference between the expected and observed number of children was due to underenumeration of the population rather than overestimation of fertility. This assumption of underenumeration is supported by the census data itself. Data on children born in the last 12 months and in the last 13 to 24 months (children that are reported to be still alive) imply substantial underenumeration or age misreporting of children 0 and 1 years of age (see section on census evaluation).

Projections

Fertility assumptions for 1980 are shown in appendix table A-2. There is no information available that indicates what the trend in fertility has been. For the upper projection series, the total fertility rate (TFR) was assumed to remain constant from 1971 to 1980 (TFR of 6.81). The lower projection series TFR for 1980 was obtained by assuming a 5-percent decline in fertility since 1971. Age-specific fertility rates for the lower projection series were estimated by interpolation between the 1971 estimated age-specific fertility rates and a set of age specific fertility rates having a TFR of

¹ As this report was being prepared for publication, a revision of this approach, using separate coefficients for each 5-year age group, became available (NAS, 1981). Since the two approaches yielded TFR's which round to the same level (6.81 births per woman) and age-specific rates which differ only slightly, this report has not been revised for the more recent modification.

3.00 and a low fertility, broad peak age pattern (United Nations, 1965, p. 110). Like the level of fertility, the pattern in the high series was assumed to have remained constant since 1971.

MORTALITY

Estimates

Direct information on mortality for the total population of Botswana does not exist. The 1971 census did, however, collect data on the survival status of the last birth as well as on whether the respondent's parents were living or deceased at the time of the census. Such information was not collected in the census of 1964.

Data on children ever born and children surviving from the 1971 census were used by Blacker (Botswana CSO, 1972, pp. A71-75) to estimate levels of child mortality according to the techniques developed by Brass (1975) and Sullivan (1972). Estimates of the probability of surviving to exact age 2 based on these two techniques and the mortality patterns of the North and West regions of the Coale-Demeny model life tables (1966) differed only slightly. As a result, Blacker adopted the average of the four estimates as the final figure of the level of mortality in the first 2 years of life. Since the estimates are based on the only available mortality data for infants and children in Botswana, the results of this analysis are accepted in this report as being the best available estimates.

A similar situation is encountered with regard to the level of adult mortality. Data on parental survivorship (orphanhood data) were used by Blacker to estimate a pattern of adult mortality. These results were then combined with the estimates of childhood mortality to yield estimated life tables for the population of Botswana. The life table constructed by Blacker was based on a logit transformation of the Brass African Standard life table and the pattern of mortality derived from the orphanhood data. See Brass and Coale (1968), Brass (1971), and Blacker's description (Botswana CSO, 1972, pp. A76-83) for details on the method and its application.

Minor differences between the published official life tables and the life tables constructed and presented in this report (see table 5) are due to slight differences in the methods of calculating various life table functions. The life tables shown here are based on the nq_x values from the official life tables and are assumed to apply to the 1964-71 intercensal period. Both sets of life tables indicate an expectation of life at birth for the late 1960's of 58 years for females and 52 years for males.

Stable population techniques were also applied to the age distributions of the 1964 and 1971 censuses in an attempt to provide alternative estimates of the expectation of life in Botswana. These analyses, however, did not yield consistent results, and were therefore not accepted. The most likely reason for the failure of this approach is that the population of Botswana does not meet the assumption of stability required by the methods. In particular, it is likely that substantial and continued migration over the period of time

covered by the two censuses contributed to the difficulties in using stable population techniques to estimate mortality levels. For further discussion of this aspect of population change, see the migration section below.

Projections

As discussed above, there are not data from which to estimate trends in mortality for Botswana. In the absence of such trends, assumptions were made on the likely increase in life expectancy at birth for Botswana males and females, considering the pattern of increase in several other African countries. Life expectancy at birth for males during the 1968 (reference data for the life table in table 5) to 1980 period was assumed to increase at a pace of one-third of a year of life for each calendar year, while female life expectancy at birth was assumed to increase 0.3 years per annum. Projected life expectancies at birth, by sex, for 1980 are shown in appendix table A-2.

MIGRATION

Estimates

Botswana has a long history of both internal and international migration. The internal migration is largely seasonal, with persons leaving their villages at certain times during the year to work on their farms or cattle posts. The large volume of international migration is due primarily to the temporary absence of persons who have gone to South Africa to work in the mines, in manufacturing, or on farms.

Each of the two most recent censuses collected information on the population absent from Botswana. In 1964, the absentee population included persons normally resident who had left the country intending to return and who had not been absent for a year; and those normally resident who had been absent for 1 to 5 years and who still remitted home tax (Bechuanaland Protectorate, 1965, p. 3). Absentees were defined in 1971 as citizens of Botswana who were absent from the country and who would live in the household if they were in Botswana. They were classified according to whether they had been away for under or over 1 year (Botswana CSO, 1972, pp. 108 and A29).

Data on absentees from the 1964 and the 1971 censuses, however, are of limited value. The data may give a fairly accurate picture of the absentees insofar as age, sex, and labor force characteristics are concerned. These data are not sufficient, however, to measure the actual number of persons who were absent from the country at the time of the census. The persons reported as being absent are those who had relatives in Botswana to report them. For absentees who have been gone for a number of years, enumeration is even more difficult, as relatives either forget to include them or doubt their intentions to return.

Absentees from Botswana are predominantly male and most are in the younger working ages (25 to 34 years of age). The length of stay of the absentees varies a great deal. Of the 46 thousand absentees reported in the 1971 census, 21 thousand had been absent for more than a year. The 1964 census reported 35 thousand absentees, 6 thousand of whom

had been absent for as long as 1 to 5 years. Following are data on the reported number of absentees in the 1964 and 1971 censuses (see also table 23).

Sex	1964	1971
Both sexes	35,132	45,735
Male	27,693	36,661
Female	7,439	9,074

The 1970 census of South Africa reported 40,840 males and 6,520 females born in Botswana who were living in South Africa. Other data available from South Africa relate to persons working in mines affiliated with the South African Chamber of Mines (see appendix table A-5). No data available from this source enable one to make estimates of the total number of absentees or of permanent emigrants.

Projections of the unadjusted 1964 population to 1971 using fertility and mortality estimates from the 1971 census suggest a substantial unrecorded flow of population out of Botswana in the intercensal period. Out of a total discrepancy of approximately 50,000 persons, Blacker (Botswana CSO, 1972, p. 191) estimated that emigration may have been on the order of 36,000 persons over and above the enumerated absentees in 1971. Blacker attributed the balance—approximately 14,000 persons—to relatively lower actual fertility in the intercensal period than had been estimated (see fertility section). Possible inaccuracies in age misreporting and in mortality and fertility estimates prohibit the estimation of migration flows with any precision. Furthermore, it is not known whether this indicated emigration is long term or even permanent, or whether it is simply an increase in the number of temporary absentees due perhaps to the severe drought conditions that existed during the intercensal years.

The majority of international migrants do go to South Africa. It is stated in the 1971 census publication that, "It is considered that a reasonable estimate for the absentee population is between 55,000 and 60,000 persons in South Africa, some 5,000 in Rhodesia and South West Africa and an insignificant number elsewhere" (Botswana CSO, 1972, p. 111).

Another facet of international migration in Botswana is the movement of refugees. The flow of refugees into Botswana has been particularly significant in the last few years, stemming from political uncertainties in surrounding countries (see appendix table A-6). Very little is known about these refugees in terms of their demographic characteristics, but it does seem clear that the vast majority have sought temporary asylum, rather than permanent resettlement. Because of the temporary nature of their stay, the refugees have not been included in the estimated or projected populations shown in the profile.

Projections

As noted in the preceding paragraph, and as shown in table 23 and appendix table A-2, migration is a major

component of population change in Botswana and has had a substantial impact on the age structure, particularly of males, as well as on the sex ratios in many age groups. Given the nature of the migration in Botswana, it is not likely that this phenomenon will change in the near future. With increasing levels of education and continued population growth, it will be some time before the economy is able to absorb the number of workers seeking employment in the non-traditional sector.

With this background, it was assumed that the proportion of absentees in each age-sex group would remain constant in the future at the same level recorded in the 1971 census. Thus, the implied number of absentees will increase in the future as the population in each age-sex group grows through natural increase. Migration other than that implied by the proportions recorded as absent was assumed to be nil.

CENSUS EVALUATION

Prior to 1964, population counts in the area of present-day Botswana consisted of administrative enumerations of village populations. In April 1964, the first household canvass census was taken, followed by a second census in August 1971. A comparison of the 1964 and 1971 census figures with earlier population counts suggests that substantial numbers of people were not enumerated in the earlier efforts. However, neither the 1964 nor the 1971 census was followed by an independent postenumeration survey, so that an evaluation of these censuses using such data was not possible. Similarly, there are no major demographic surveys from which to obtain independent information for census evaluation. Consequently, the census evaluation was performed using internal consistency checks and demographic analysis.

A preliminary analysis of the data from the two censuses indicated that they shared common problems of age misstatement and underreporting, particularly in the younger ages. An attempt was made to use the results of the 1971 census to evaluate the data from the 1964 census, and vice versa. Reverse survival of the 1971 enumerated population implied overenumeration in almost all the age groups in the 1964 census, despite the inclusion of the recorded absentee population in both sets of census figures. This finding implies either a substantial unrecorded net emigration in the 1964-71 period or a higher level of underenumeration in the 1971 census than in the census of 1964. Available information from the two population censuses for Botswana suggests that the former is the more likely cause of this phenomenon.

Due to the lack of migration information the two censuses cannot be precisely linked. It was decided, therefore, to focus the evaluation on the census of 1971. First, the de facto population and the absentees recorded in the census were added to obtain the estimated de jure population. The male and female populations in 10-year age groups ages 10 to 69 years were then smoothed and split using a formula proposed by Arriaga (1968, p. 295). The smoothed and split populations, by sex, formed the basis of subsequent analysis and adjustment.

The official 1971 census publication (Botswana CSO, 1972) provides the following estimates of known omissions in the 1971 count (estimated missed population in parentheses):

1. nomads (10,550);
2. 140 dwellings not enumerated in the Central-Mmadinare District (600);
3. population in Selebi-Pikwe (4,000);
4. population in the Okavango Swamps (2,000);
5. one percent of the population missed due to officially abandoned callbacks (5,700).

Thus, official estimates indicated a total of at least 22,900 persons omitted from the 1971 census. This omitted population was added to the smoothed de jure population proportionally by age and sex. Next, the recorded absentees were subtracted from this distribution, yielding an estimated de facto population adjusted for the reported omitted population. The population, ages 10 and over, by sex, was accepted as the adjusted de facto population of these ages.

In order to estimate the adjusted de facto population under age 10, the adjusted 1971 female population over age 10 was reverse survived to 1961. The resulting 1961 female population was projected forward to 1971 using estimated age-specific fertility rates (see fertility section) and the same mortality as in the rejuvenation process. For this projection, fertility was assumed to have remained constant in the 10 years preceding the census. The births obtained during the projection process were separated into males and females using a sex ratio of 1.03 and then were survived to 1971 using appropriate life tables for each sex.

This projection provided a preliminary estimate of the adjusted population under age 10. Using this estimate, the population ages 10 to 19 years was then re-split into 5-year age groups, as previously mentioned, and the reverse-survival and projection procedure was repeated, resulting in slightly modified estimates of the population under 10 years of age.

The combination of the population under age 10 estimated through this projection and the population in 5-year age groups ages 10 and over was accepted as the final adjusted de facto census population for 1971 (see table 2).

The estimated net (percent) underenumeration in the 1971 census for the total population and the population under age 10, by sex, is presented in the following figures:

Sex	All ages	Under age 10
Both sexes	4.8	6.6
Male	5.4	7.7
Female	4.2	5.4

No adjustment was made to the age-sex distribution of the 1964 census, rather the total population was inflated for the same percent underenumeration as was estimated for 1971 (see table 1).

POPULATION PROJECTIONS

The population projections were based on the adjusted 1971 census population (de facto), and the assumed trends in fertility, mortality, and migration that were discussed previously. The assumption that the proportion absent in each age-sex group would remain fixed in the future was incorporated into a component projection through a modification of the ${}_nL_x$ function of the life tables. Each ${}_nL_x$ value was multiplied by the proportion present in that age-sex group of the population. This assumption implies that, for males, there is a significant net emigration beginning in the 15 to 19 age group and continuing through ages 25 to 29. After this last age group there is a net movement back into Botswana. For females the number of migrants is smaller than for males. The movement is outward through the age group 35 to 39 years of age, followed by net immigration in the older age groups.

Table A-1. Projected Midyear Population, by Age and Sex: 1980

(Numbers in thousands. Figures may not add to totals due to rounding. Excludes absentees)

Age	Population			Percent		
	Both sexes	Male	Female	Both sexes	Male	Female
All ages.....	794.7	367.3	427.4	100.0	100.0	100.0
0 to 4 years.....	156.9	79.0	77.9	19.7	21.5	18.2
5 to 9 years.....	125.1	62.4	62.7	15.7	17.0	14.7
10 to 14 years.....	104.4	52.0	52.4	13.1	14.2	12.3
15 to 19 years.....	81.4	38.2	43.2	10.2	10.4	10.1
20 to 24 years.....	59.0	22.9	36.1	7.4	6.2	8.4
25 to 29 years.....	47.8	18.2	29.6	6.0	4.9	6.9
30 to 34 years.....	40.2	15.9	24.3	5.1	4.3	5.7
35 to 39 years.....	34.5	14.2	20.3	4.3	3.9	4.7
40 to 44 years.....	29.9	12.7	17.1	3.8	3.5	4.0
45 to 49 years.....	25.6	11.1	14.5	3.2	3.0	3.4
50 to 54 years.....	22.6	10.3	12.4	2.8	2.8	2.9
55 to 59 years.....	19.1	8.8	10.3	2.4	2.4	2.4
60 to 64 years.....	15.4	7.1	8.3	1.9	1.9	1.9
65 to 69 years.....	12.2	5.6	6.6	1.5	1.5	1.5
70 to 74 years.....	8.9	4.0	4.9	1.1	1.1	1.1
75 to 79 years.....	6.0	2.6	3.4	0.8	0.7	0.8
80 years and over.....	5.7	2.3	3.5	0.7	0.6	0.8
FUNCTIONAL AGE GROUPS						
5 to 19 years.....	310.9	152.6	158.3	39.1	41.5	37.0
15 to 49 years.....	318.3	133.2	185.1	40.1	36.3	43.3
10 years and over.....	512.7	225.9	286.8	64.5	61.5	67.1
65 years and over.....	32.8	14.5	18.3	4.1	3.9	4.3

Source: Projected based on the adjusted 1971 census population. See source note to table 1 and the Technical Notes. See appendix table A-2 for projected components of population change for 1980.

Table A-2. Projected Measures of Population Change: 1980

Measure	Lower series	Upper series
FERTILITY		
Total fertility rate per woman.....	6.47	6.81
Births per 1,000 population.....	46	48
MORTALITY		
Life expectancy at birth (years):		
Male.....	56	56
Female.....	62	62
Deaths per 1,000 population.....	12	12
NET INTERNATIONAL MIGRATION		
Net emigrants per 1,000 population.....	3	3
RATE OF NATURAL INCREASE		
Percent.....	3.4	3.6
GROWTH RATE		
Percent.....	3.1	3.3

Note: Estimates for earlier years are shown in tables 3, 4, and 7.

Source: The total fertility rate (TFR) for the upper series is based on an assumption of no change in the TFR estimated for 1971 (see table 7). The total fertility rate for the lower series assumes a 5-percent decline in the 1971 TFR. Crude birth rates were derived through the application of age-specific fertility rates corresponding to the above TFR's to the 1980 population, by age and sex, based on a component projection of the adjusted 1971 census population. See the fertility section of the Technical Notes for further discussion.

Life expectancy at birth, by sex, was projected from the levels of life expectancy estimated for the 1964-71 period (see table 5). For both series, life expectancy at birth was assumed to increase by three-tenths of a year per annum for males and by one-third of a year per annum for females. Crude death rates for 1980 were estimated using these 1980 life tables and the 1980 population, by age and sex, projected from the adjusted 1971 census figures. See the mortality section of the Technical Notes for discussion of these estimation and projection procedures.

Projected measures of population change in the upper series are consistent with the projection series shown in table 1.

Net international migration for 1980 was based on an assumption that approximately the same rate of absenteeism among each age-sex population group as was recorded in the 1971 census would continue. See the discussion of migration and population projection in the Technical Notes for further details.

Rates of natural increase were calculated from unrounded crude birth and death rates. They may not equal the difference between the crude birth and death rates shown due to rounding. Growth rates are based on unrounded crude birth and death rates and implied net international migration.

Table A-3. Alternate Estimates of Vital Rates: 1964 and 1971

(For meaning of symbols, see page IV)

Year and source	Births per 1,000 population	Deaths per 1,000 population	Rate of natural increase (percent)
1964			
Page and Coale.....	48	(NA)	(NA)
1971			
Adegbola.....	52.1	(NA)	(NA)
Blacker.....	45.3	14.5	3.1

Source:

1964 - Based on stable population analysis as reported in Page and Coale, 1972, table 9.1 (a).

1971 - Adegbola's estimates are based on stable population analysis of the 1971 census (Adegbola, 1977, appendix B).

Rates estimated by Blacker are based on adjusted births for the 12 months preceding the census, data on orphanhood, and a graduated census population that excludes absentees (Botswana CSO, 1972, table 17.21).

Table A-4. Alternate Estimates of Total and Age-Specific Fertility Rates: 1964 and 1971

(For meaning of symbols, see page IV)

Measure and age	1964	1971		
	Page and Coale	Adegbola	Unadjusted census data	Blacker
Age-specific fertility rates (per 1,000 women)				
15 to 19 years.....	(NA)	(NA)	77	96
20 to 24 years.....			248	278
25 to 29 years.....			248	276
30 to 34 years.....			218	243
35 to 39 years.....			178	198
40 to 44 years.....			125	138
45 to 49 years.....			64	71
Total fertility rate (per woman).....	6.5	6.76	5.79	6.50

Source:

1964 - Rate estimated by Page and Coale (1972, table 9.1 (a)) is based on stable population analysis of 1964 census data.

1971 - Rate estimated by Adegbola (1977, appendix B) is based on stable population analysis of 1971 census data.

Rates based on 1971 census data on births occurring in the 12 months prior to the census are reported in Botswana CSO, 1972, table 17.9.

Rates estimated by Blacker (Botswana CSO, 1972, table 17.20) were based on 1971 census data and the P/F ratio technique, taking into account an analysis of P/F ratios by birth order.

Table A-5. Number of Workers from Botswana Employed in Mines Affiliated With the South African Chamber of Mines: 1946 to 1975

(Numbers in thousands)

Year	Number	Year	Number
1946.....	7.0	1961.....	13.2
1947.....	8.8	1962.....	15.1
1948.....	7.8	1963.....	15.3
1949.....	9.7	1964.....	16.0
1950.....	9.8	1965.....	20.5
1951.....	9.1	1966.....	19.0
1952.....	9.5	1967.....	16.0
1953.....	9.1	1968.....	15.6
1954.....	10.3	1969.....	14.8
1955.....	10.5	1970.....	16.3
1956.....	10.4	1971.....	16.0
1957.....	11.5	1972.....	17.5
1958.....	12.8	1973.....	16.8
1959.....	14.5	1974.....	14.7
1960.....	16.0	1975.....	16.6

Note: Data are for December 31 of each year. Workers in these mines are only a portion of the total number of workers from Botswana present in South Africa. Most sources estimate the total number of absentees around 1970 to be at least twice that indicated by the above figure.

Source: Wilson, 1976, tables 3 and 5.

Table A-6. Estimated Number of Refugees in Botswana: 1971 to 1980

End-of-year	Number
1971.....	4,500
1972.....	4,500
1973.....	4,000
1974.....	2,500
1975.....	2,500
1976.....	3,000
1977.....	4,800
1978.....	18,600
1979.....	23,300
1980 ¹	1,500

¹Data refer to midyear 1980.

Note: Refugees were from Zimbabwe, South Africa, Namibia, Angola, and Lesotho.

Source:

1971 to 1979 - United Nations, 1972, p. 18; 1973, corrigendum; 1974, p. 25; 1975, p. 26; 1976, p. 34; 1977, p. 25; 1978, p. 27; 1979, p. 23; and 1980, p. 10.

1980 - Telephone conversation August 1980 with the Washington Office of the United Nations High Commissioner for Refugees.

Table A-7. Enumerated Population, by Age and Sex: April 1964

(Population in thousands. Figures may not add to totals due to rounding. Excludes absentees)

Age	Population			Percent		
	Both sexes	Male	Female	Both sexes	Male	Female
All ages.....	500.2	234.8	265.5	100.0	100.0	100.0
0 to 4 years.....	77.8	38.3	39.6	15.6	16.3	14.9
5 to 9 years.....	86.5	43.1	43.4	17.3	18.4	16.4
10 to 14 years.....	64.0	32.6	31.4	12.8	13.9	11.8
15 to 19 years.....	48.4	23.4	25.0	9.7	10.0	9.4
20 to 24 years.....	33.8	13.0	20.9	6.8	5.5	7.9
25 to 29 years.....	32.1	12.5	19.6	6.4	5.3	7.4
30 to 34 years.....	25.2	10.2	15.1	5.0	4.3	5.7
35 to 39 years.....	27.2	11.9	15.3	5.4	5.1	5.8
40 to 44 years.....	20.2	9.0	11.2	4.0	3.8	4.2
45 to 49 years.....	20.5	10.1	10.4	4.1	4.3	3.9
50 to 54 years.....	15.9	7.9	8.1	3.2	3.4	3.0
55 to 59 years.....	13.0	6.5	6.5	2.6	2.8	2.4
60 to 64 years.....	11.2	5.6	5.6	2.2	2.4	2.1
65 to 69 years.....	8.1	3.9	4.2	1.6	1.7	1.6
70 to 74 years.....	4.9	2.2	2.7	1.0	0.9	1.0
75 to 79 years.....	4.2	1.8	2.4	0.8	0.8	0.9
80 years and over.....	5.8	2.2	3.6	1.2	0.9	1.4
Unknown age.....	1.5	0.7	0.7	0.3	0.3	0.3

Source: Census data as reported in Bechuanaland Protectorate, 1965, table V, p. 73.

Table A-8. Population Ages 10 Years and Over, by Literacy, Age, and Sex: 1964

(Population in thousands. Figures may not add to totals due to rounding. Excludes absentees)

Age	Both sexes			Male			Female		
	Total population	Literate population		Total population	Literate population		Total population	Literate population	
		Number	Percent of total		Number	Percent of total		Number	Percent of total
Total, 10 years and over.....	334.4	115.3	34.5	152.7	47.1	30.8	181.7	68.2	37.5
10 to 14 years.....	64.0	26.3	41.0	32.6	10.7	32.7	31.4	15.6	49.7
15 to 19 years.....	48.4	23.4	48.5	23.4	9.3	39.7	25.0	14.1	56.7
20 to 24 years.....	33.8	14.9	44.1	13.0	5.0	38.5	20.9	9.9	47.6
25 to 34 years.....	57.4	21.5	37.4	22.6	7.7	33.9	34.7	13.8	39.8
35 to 44 years.....	47.4	14.6	30.9	20.9	6.3	30.2	26.5	8.3	31.4
45 to 54 years.....	36.4	8.3	22.9	18.0	4.4	24.5	18.4	3.9	21.4
55 years and over.....	47.1	6.2	13.1	22.2	3.7	16.8	24.8	2.5	9.9

Note: A question on literacy was not asked in the 1971 census. Literacy is defined as the ability to read. These data should be used with caution. "Those who stated they were literate may give an unduly high figure of the true percentage of literacy in the territory." (Bechuanaland Protectorate, 1965, p. 37).

Source: Based on 1964 census data as reported in Bechuanaland Protectorate, 1965, table V, p. 73 and table XV, p. 94.

Table A-9. Economically Active Population, by Age and Sex: 1964

(Population in thousands. Figures may not add to totals due to rounding. Excludes absentees)

Age	Male			Female		
	Total population ¹	Economically active ²		Total population ¹	Economically active ²	
		Number	Percent of total		Number	Percent of total
Total, 5 years and over	195.8	125.2	63.9	225.2	124.9	55.5
5 to 9 years.....	43.1	1.7	4.0	43.4	0.4	0.8
10 to 14 years.....	32.6	17.3	53.0	31.4	5.7	18.2
15 to 19 years.....	23.4	14.7	63.0	25.0	11.1	44.6
20 to 24 years.....	13.0	10.6	82.1	20.9	16.7	79.9
25 to 34 years.....	22.6	21.7	96.0	34.7	30.0	86.3
35 to 44 years.....	20.9	20.4	97.9	26.5	23.7	89.3
45 to 54 years.....	18.0	17.7	98.4	18.4	16.8	91.1
55 to 64 years.....	12.1	11.9	97.8	12.0	11.0	91.4
65 years and over.....	10.1	9.0	89.7	12.8	9.5	74.3

¹Excludes 736 males and 735 females who did not report their age.²Excludes 263 males and 261 females who did not report their age.

Note: The economically active population includes all persons who ran their own business, worked for the family without receiving any form of wage, received a cash wage for working, or worked outside their immediate families for wages in the form of food, clothing, and cattle, etc.

Source: Data are from the 1964 census as reported in Bechuanaland Protectorate, 1965, table XVII, p. 95.

Table A-10. Economically Active Population, by Industry and Sex: 1964

(Population in thousands. Figures may not add to totals due to rounding. For meaning of symbols, see page IV. Excludes absentees)

Industry	Population			Percent		
	Both sexes	Male	Female	Both sexes	Male	Female
Total classified workers.....	249.4	124.3	125.1	100.0	100.0	100.0
Agriculture, forestry, hunting, and fishing.....	227.6	108.7	119.0	91.3	87.4	95.1
Mining and quarrying.....	1.9	1.9	0.1	0.8	1.5	0.1
Manufacturing.....	2.4	1.6	0.8	1.0	1.3	0.7
Construction.....	2.7	2.7	(Z)	1.1	2.2	(Z)
Electricity, water, and sanitation services.....	0.1	0.1	-	(Z)	0.1	-
Commerce.....	2.5	2.0	0.5	1.0	1.6	0.4
Transport and communications.....	2.3	2.3	0.1	0.9	1.8	(Z)
Services.....	9.8	5.1	4.7	3.9	4.1	3.8

Note: Excludes 1,144 males and 120 females of unknown or ill-defined activities. See appendix table A-9 for the definition of economically active.

Source: Data are from the 1964 census as reported in Bechuanaland Protectorate, 1965, table XXII, p. 100.

Table A-11. Economically Active Population, by Occupation and Sex: 1964

(Population in thousands. Figures may not add to totals due to rounding. For meaning of symbols, see page IV. Excludes absentees)

Occupation	Population			Percent		
	Both sexes	Male	Female	Both sexes	Male	Female
Total classified workers.....	250.5	125.3	125.2	100.0	100.0	100.0
Professional, technical, and related workers.....	2.9	1.8	1.1	1.1	1.4	0.9
Administrative, executive, and managerial workers.....	0.5	0.4	(Z)	0.2	0.4	(Z)
Clerical workers.....	1.0	0.8	0.2	0.4	0.7	0.2
Sales workers.....	1.8	1.4	0.4	0.7	1.1	0.3
Farmers, fishers, hunters, loggers, and related workers.....	226.8	107.8	119.0	90.5	86.0	95.0
Miners and quarry workers.....	1.5	1.5	0.1	0.6	1.2	(Z)
Workers in transport and communication.....	1.3	1.3	(Z)	0.5	1.0	(Z)
Craftsmen, production-process workers, and laborers not classified elsewhere.....	8.5	7.5	0.9	3.4	6.0	0.8
Service workers.....	6.2	2.7	3.5	2.5	2.1	2.8

Note: Excludes 14⁵ males and 17 females of unknown or ill-defined occupation. Data are arranged according to the 1955 International Standard Classification of Occupations, adjusted to meet the country's needs. See appendix table A-9 for the definition of economically active.

Source: Data are from the 1964 census as reported in Bechuanaland Protectorate, 1965, table XIX, pp. 96-99.

Glossary

(Following are definitions of terms as used in the tables and the notes of the reports in the profile series)

Absentee. In 1964, the absentee population included persons normally resident who had left the country intending to return and who had not been absent for a year; and those normally resident who had been absent from 1 to 5 years and who still remitted home tax. Absentees were defined in 1971 as citizens of Botswana who were absent from the country and who would live in the household if they were in Botswana.

Age pattern of fertility. The percent distribution of a set of age-specific fertility rates. It expresses the relative contribution of each age group to total fertility.

Age-sex-specific death rate. The average annual number of deaths to a given sex in a given age group during a specified period of time per 1,000 persons in the same sex and age group (based on midperiod population).

Age-specific fertility rate. The average annual number of births to women in a given age group during a specified period of time per 1,000 women in the same age group (based on midperiod population).

Birth rate. The average annual number of births during a specified period of time per 1,000 persons (based on midperiod population). Also called crude birth rate.

Brass fertility technique. A method of adjusting age-specific fertility rates based on an assumed relationship between these rates and the average number of children ever born per woman in 5-year age groups.

Brass mortality technique. A method of estimating the level of infant and child mortality based on information on children ever born and children surviving provided by women in 5-year age groups, and on an assumed relationship between certain life table values and the proportion of children ever born who are still living.

Child (hood) mortality. Mortality during the early childhood years, sometimes up to age 10 or 15.

Child survivorship techniques. Various techniques used to estimate the level of infant and child mortality based on data on children ever born and children surviving (e.g., see mortality techniques developed by Brass, Feeney, Sullivan, and Trussell).

Children ever born. The number of live births to a woman, regardless of whether the children are currently living or dead, or living with or away from the mother. At times, data may be collected or reported only for women of a specific group, e.g., ever-married women.

Children surviving. The number of children ever born to a woman who are still alive at the time of the inquiry, regardless of whether the children are currently living with or away from the mother. At times data may be collected or reported only for women of a specific group, e.g., ever-married women.

Coale-Demeny regional model life tables. See model life table.

Cohort. A group of individuals who experience the same event in the same time period, such as birth or marriage in the same year.

Component method. A method of estimating or projecting a population in which separate components of population change (fertility, mortality, and migration) are used. This method may be used to derive the total population or population by specific characteristics, e.g., age and sex.

Crude birth rate. See birth rate.

Crude death rate. See death rate.

Death rate. The average annual number of deaths during a specified period of time per 1,000 persons (based on midperiod population). Also called crude death rate.

De facto population. A concept under which individuals are attributed to the geographic area where they were actually located at the time of the enumeration.

De jure population. A concept under which individuals are attributed to a geographic area by virtue of their usual place of residence, whether or not they were actually located in that area at the time of the enumeration. For purposes of this report, the de jure population is equal to the de facto population plus the reported population absent from Botswana.

Ever-married women. All women who are now, or who have been, married. The category includes the currently married, and the widowed, divorced, or separated.

Feeney mortality technique. A method of estimating the trend in infant mortality based on information on children ever born and children surviving provided by women in 5-year age groups, and on assumed relationships between certain life table values and the proportion of children ever born who are still living.

Gross reproduction rate. The average number of daughters born per woman in a group of women passing through the childbearing years and experiencing a given set of age-specific fertility rates. This rate implicitly assumes that all women live to the end of the childbearing years. (See also net reproduction rate.)

Growth rate. The average annual percent change in the population calculated assuming exponential growth. This change results from a surplus (or deficit) of births over deaths and the balance of migrants entering and leaving the country.

Incomplete registration. A term used to indicate that the coverage of registered data is less than 90 percent of all vital events.

Infant mortality rate. A measure of the frequency of death between birth and age 1, during a specified period of time. Usually calculated as the number of deaths to infants under 1 year of age per 1,000 live births occurring in the same calendar year.

Life expectancy at birth. The average number of years listed by a birth cohort, exposed to a given set of age-specific death rates.

Life table. A statistical table representing the life history of a hypothetical cohort exposed to a given set of age-specific death rates.

Life table central death rates. Age-specific death rates based on a life table population.

Logit mortality technique. A method of adjusting a specific function in an empirical life table based on an assumed relationship with the same function in a standard (model) life table.

Model life table. A life table not derived from the observed mortality of an actual population. Well-known sets of model life tables include United Nations model life tables and Coale-Demeny regional model life tables.

Mortara fertility technique. A method of estimating age-specific fertility rates based on the difference between the average number of children ever born per woman at each consecutive age or age group.

Net census error. The combination of net underenumeration (or net over-enumeration—see net coverage error) and net age misreporting.

Net coverage error. The balance between the number of persons omitted in a census or survey and those erroneously included, expressed as a percentage of the adjusted popula-

tion. An excess of persons omitted is referred to as net underenumeration, an excess of persons erroneously included as net overenumeration.

Net emigration rate. See net migration rate.

Net immigration rate. See net migration rate.

Net migration rate. The balance between the number of persons entering and leaving the country during a specified period of time per 1,000 persons (based on midperiod population). An excess of persons entering the country is referred to as net immigration, an excess of persons leaving the country as net emigration.

Net reproduction rate. A refinement of the gross reproduction rate that allows for mortality of women from birth to the end of the reproductive years.

Net acceptors. Persons accepting methods of contraception from family planning systems, including clients accepting contraceptive services for the first time; clients changing to another service organization; clients changing to a different contraceptive method; and clients resuming acceptance of contraceptive services after a lapse of 1 year or more.

Orphanhood technique. A method of estimating the level of adult mortality based on the proportion of persons at each age whose mother or father is no longer living at the time of the census or survey.

Overenumeration. An enumeration of the population which erroneously counts more persons than actually belong to it.

P/F ratio technique. A method of adjusting age-specific fertility rates based on an assumed relationship between these rates and the average number of children ever born per woman in 5-year age groups.

Projection. A term used to describe population data and vital rates for years since the latest reliable population census figure, complete vital registration data, or sample survey data.

Rate of natural increase. The average annual percent change in the population during a specified period of time resulting from a surplus (or deficit) of births over deaths. The natural increase of the population does not include an allowance for net migration (see growth rate).

Registration. A method of continuously recording information on vital events as they occur, through either a civil or a special recording system.

Retrospective question. A question asked in a census or survey which attempts to obtain information about past actions or events rather than about the present status of the respondent or his/her family.

Reverse-survival technique. A backward projection (sometimes called "rejuvenation") of the population by age and

sex in order to estimate the size and distribution of the population in the past, using age-sex-specific survival ratios for the projection period. Reverse survival may also be used to estimate the number of births in the past.

Sex ratio at birth. The number of male births for each female birth during a specified period of time.

Stable population analysis. A method of demographic analysis based on a model population which has not been subject to migration, and where fertility and mortality have remained constant over a long period of time.

Sullivan mortality technique. A modification of the Brass mortality technique for estimating the level of infant and child mortality. Results from a regression analysis of empirically based fertility and mortality schedules are incorporated into the procedure of converting the proportion of children

ever born who are still surviving per woman in given 5-year age groups into precise life table measures.

Survival ratios. The proportion of persons in a given age group who will be alive a specified number of years later.

Total fertility rate. The average number of children that would be born per woman if all women lived to the end of their childbearing years and bore children according to a given set of age-specific fertility rates.

Trussell mortality technique. A refinement of the Brass and Sullivan mortality techniques for estimating the level of infant and child mortality. Additional independent variables are included in the regression analysis, and Coale-Trussell model fertility schedules are substituted in place of empirical fertility schedules.

Underenumeration. An enumeration of the population which erroneously counts fewer persons than actually belong to it.

Major Sources

- Adegbola, O. 1977. "New Estimates of Fertility and Child Mortality in Africa, South of the Sahara." *Population Studies*. Vol. 31, No. 3. London.
- Arriaga, Eduardo E. 1968. *New Life Tables for Latin American Populations in the Nineteenth and Twentieth Centuries*. Population Monograph Series, No. 3. University of California, Berkeley.
- Bechuanaland Protectorate. 1965. *Report on the Census of the Bechuanaland Protectorate, 1964*. Bulawayo, Rhodesia.
- Botswana Central Statistics Office (CSO). 1972. *Report on the Population Census 1971*. Gaborone.
- _____. 1977. *Statistical Abstract 1976*. Gaborone.
- _____. 1979. *Statistical Abstract 1977/78*. Gaborone.
- _____. no date. *Statistical Abstract 1972*. Gaborone.
- Botswana Ministry of Education. 1971. *Education Statistics for the Year 1970—Part One*. Gaborone.
- Botswana Ministry of Finance and Development Planning. 1973. *Manpower and Employment in Botswana*. Gaborone.
- Brass, William. 1971. "On the Scale of Mortality." in *Biological Aspects of Demography*, edited by William Brass. New York.
- _____. 1975. *Methods of Estimating Fertility and Mortality from Limited and Defective Data*. Occasional Publication. Laboratories for Population Statistics. University of North Carolina. Chapel Hill.
- Brass, William and Ansley J. Coale. 1968. "Methods of Analysis and Estimation." Chapter III in William Brass, et al., *The Demography of Tropical Africa*. Princeton University. Princeton.
- Coale, Ansley J. and Paul Demeny. 1966. *Regional Model Life Tables and Stable Populations*. Princeton University. Princeton.
- Cook, Sheila. 1973. *An Evaluation of the IPPF Programme in Botswana 1969-1973*. International Planned Parenthood Federation. Gaborone.
- _____. 1976. *Evaluation of Family Planning Programmes: An Example for Botswana*. Research for Action No. 2. International Planned Parenthood Federation. London.
- El-Badry, M. A. 1961. "Failure of Enumerators to Make Entries of Zero: Errors in Recording Childless Cases in Population Censuses." *Journal of the American Statistical Association*. Vol. 56, No. 296: 909-924.
- Elkan, Walter. 1980. "Labor Migration for Botswana, Lesotho, and Swaziland." *Economic Development and Cultural Change*. Vol. 28, No. 3: 583-596.
- National Academy of Sciences (NSA). Committee on Population and Demography. 1981. *Demographic Estimation: A Manual on Indirect Techniques*, by Kenneth Hill, Hania Zlotnik, and James Trussell. Washington, D.C.
- Nortman, Dorothy L. and Ellen Hofstatter. 1979. *Population and Family Planning Programs, Supplementary Tables to the Ninth Edition of the Fact Book*. Working Papers Special Series No. 2. The Population Council. New York.
- Page, H.J. and A.J. Coale. 1972. "Fertility and Child Mortality South of the Sahara." Chapter 9 in *Population Growth and Economic Development in Africa*, edited by S.H. Ominde and C.N. Fjiogu. London.

- Stephens, Betsy. 1978. "Program Implications of Discontinuation: The Botswana Family Planning Follow-Up Study." *Path-papers*. No. 3.
- Sullivan, Jeremiah. 1972. "Models for the Estimation of the Probability of Dying between Birth and Exact Ages of Childhood." *Population Studies*. Vol. 26, No. 1: 79-97.
- United Nations Economic Commission for Africa (UNECA). 1971. "Country Statement: Botswana." African Population Conference, Accra, Ghana, 9-18 December, 1971.
- United Nations. 1972. *Report of the United Nations High Commissioner for Refugees*. Official Records: Twenty-Seventh Session, Supplement No. 12 (A/8712). New York.
- _____. 1973. *Report of the United Nations High Commissioner for Refugees*. Official Records: Twenty-Eighth Session, Supplement No. 12 (A/9012). New York.
- _____. 1974. *Report of the United Nations High Commissioner for Refugees*. Official Records: Twenty-Ninth Session, Supplement No. 12 (A/9612). New York.
- _____. 1975. *Report of the United Nations High Commissioner for Refugees*. Official Records: Thirtieth Session, Supplement No. 12 (A/10012). New York.
- _____. 1976. *Report of the United Nations High Commissioner for Refugees*. Official Records: Thirty-First Session, Supplement No. 12 (A/31/12). New York.
- _____. 1977. *Report of the United Nations High Commissioner for Refugees*. Official Records: Thirty-Second Session, Supplement No. 12 (A/32/12). New York.
- _____. 1978. *Report of the United Nations High Commissioner for Refugees*. Official Records: Thirty-Third Session, Supplement No. 12 (A/33/12). New York.
- _____. 1979. *Report of the United Nations High Commissioner for Refugees*. Official Records: Thirty-Fourth Session, Supplement No. 12 (A/34/12). New York.
- _____. 1980. *Report on UNHCR Assistance Activities in 1979-80 and Proposed Voluntary Funds Programmes and Budget for 1981*. A/AC.96/577. New York.
- Wilson, Francis. 1976. "International Migration in Southern Africa." *International Migration Review*. Vol. 10. Winter.

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Country Demographic Profiles have recently been published or are forthcoming in the near future (in the ISP-DP series of reports) for the following countries:

- No. 4 - Costa Rica (*Issued August 1977*)
- No. 5 - Ghana (*Issued September 1977*)
- No. 6 - Guatemala (*Issued October 1977*)
- No. 7 - Panama (*Issued November 1977*)
- No. 8 - Sri Lanka (*Issued November 1977*)
- No. 9 - Jamaica (*Issued November 1977*)
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- No. 28 - Liberia

(Reports Nos. 1 and 2, published in 1973, represent earlier versions of Costa Rica and Ghana. Report No. 3 was an earlier version for the Republic of China, and was published in 1974)