

ETHIOPIA

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ETHIOPIA



E T H I O P I A

I. DATA SOURCES

In the long history of Ethiopia's existence, no census of population has as yet been taken. Due to paucity of population data, it would be difficult to reconstruct historically the size and growth of the Ethiopian population prior to 1950. Since the 1950s, estimates of the population size are available with varying reliability and from a variety of sources. The first estimate of the size of the population was obtained from the 1956 head-count of the population undertaken by the Ministry of Interior for the purpose of determining the number of constituencies and election of representatives to the chamber of Deputies of the first parliamentary election held in 1957.

For the evaluation of the size of population, the following sources of data are used in this study :

- administrative head counts undertaken for purposes of parliamentary elections
- registered number of voters in the fifth parliamentary election
- National Sample Surveys, First and Second round
- Small Scale Agricultural Sample Census

II. CRITICAL STUDY OF THE SOURCES1) Administrative Head Counts

Administrative head counts are held for purposes of parliamentary elections. The village or nomad chiefs are required to make a head count of the population under their jurisdiction and supply the information to their immediate administrative officials. Due to problems of counting procedures, lack of compliance as a result of suspicion about the purpose, transportation problems, or lack of administrative supervision and follow-up, the data are subject to a wide margin of error.

Ponsi has assessed the quality of the administrative head count as follows [7, p.7] :

"According to the Ministry of the Interior's population head count for 1962, the total population of Ethiopia was assessed at 24 130 000, a figure which is slightly larger than the Central Statistical Office's estimates for Ethiopia's population eight years later, i.e. 24 069 800. The Ministry of the Interior had collected these data

for the second parliamentary election by sending two sets of forms to each provincial governor with orders to pass them on to their sub-alterns in the awraja, weredas and mikartil weredas under their Jurisdiction. Threats of fines and other penalties were intended to ensure compliance with the order of providing an accurate head count of the people living in their administrative districts and sending these figures back to the head office. The degree of compliance varied greatly from no data whatsoever (e.g. Keffa), to data for one awraja only (Wollaita for Sidamo), to fairly complete coverage (Hararge, especially the towns). The 1966 assessment followed a similar pattern (total population 27 824 119) while the 1956 assessment was simply meant to provide the U.N. office with some indications of the size of the total population of Ethiopia (20 000 000)".

Because of the unreliability of the population estimate based on administrative head count, an estimate of the total population at the present time is not attempted here. But for nomadic population, rural population of Eritrea and other non-surveyed areas, the population estimate of these areas is mainly based on the administrative head counts.

2) Registered Number of Voters in the Fifth and Latest parliamentary Election of June 1973

The population size of a country can be estimated from the registered number of voters on the assumption that the number of voters plus non-voters equals the total population. The number of non-voters is obtained by multiplying the number of voters by appropriate multiplying factors. A voter must be at least 21 years of age, usually resident in the area and must be an Ethiopian citizen. The number of registered voters during the five parliamentary elections in 1957, 1961, 1965, 1969 and 1973 were 3 784 226; 3 939 094; 5 137 157; 5 249 896 and 7 326 356, respectively [4, pp. 37-39].

An attempt is made here to estimate the population size based on the latest parliamentary election of 1973. The registration of voters took from September 1972 to early January 1973 and the number of registered voters is taken to refer to January 1973. For the fifth parliamentary election 7 326 356 voters were registered of whom 74 percent were male and 26 percent were female. The percentage age-distribution of voters is such that 66 percent, 26 percent and 9 percent were in the age groups 21-35, 36-50 and over 50 years, respectively [4, p. 34]. The existence of serious under-registration of voters by age is depicted by comparison of the observed age-distribution of voters with the expected percentage age-distribution of population aged 21 and over. Table 34 gives the comparison of the age-distribution along with the distribution of male voters by age.

Table 34

ETHIOPIA - OBSERVED AND EXPECTED PERCENTAGE AGE-DISTRIBUTION
OF POPULATION AGED 21 AND OVER AND OBSERVED AGE-DISTRIBUTION
OF MALE VOTERS

AGE GROUP	OBSERVED (%)	EXPECTED (a) (%)	MALE VOTERS
21 - 35 years	66	50	5 421 503
36 - 50 years	25	31	1 355 376
Over 50 years	9	19	487 935
TOTAL 21 YEARS AND OVER	100	100	5 421 503

(a) Source: [2, Table III, P.37]

The estimation of total population from the registered number of voters is made under the following three assumptions :

a) The number of registered male voters was about correct while the number of female voters was under-registered. Female population aged 21 and over is estimated by dividing the number of registered male voters by sex ratio of the population aged 21 and over.

Number of registered male voters	5 421 503
Sex ratio of population aged 21 years and over	1.02
Number of females aged 21 years and over	$\frac{5\ 421\ 503}{1.02}$
	= 5 315 199

The ratios of male and female non-voters to voters aged 21 years and over as computed from the adjusted age-sex distribution of the population of Ethiopia are 1.283 and 1.237, respectively.

Males under 21 years of age	$5\ 421\ 403 \times 1.283 = 6\ 955\ 788$
Females under 21 years of age	$5\ 315\ 199 \times 1.237 = 6\ 574\ 901$
Total Population as of January 1973 voters + non-voters	$10\ 736\ 702 + 13\ 530\ 689 = 4\ 267\ 391$

b) Male registered voters aged 21-50 is about complete and should represent 81 percent rather than 91 percent of the population aged 21 and over while those aged above 50 years are under-registered and should correspond to 19 percent of the population aged 21 and over. Adjustments for female under-registration is made as in assumption one.

Registered male voters aged 21-50 years	4 933 568
81% of voters	4 933 568
Therefore 19% of voters	1 157 257
Male population under 21 years of age	6 090 825 x 1.283 = 7 814 528
Female population 21 years and over	$\frac{6\ 090\ 825}{1.02} = 5\ 971\ 397$
Female population under 21 years of age	5 971 397 x 1.237 = 7 386 618
Thus the total population as of January 1973 would be	27 263 368

c) Registered male voters aged 21-35, are about correct while those aged 36 and over are under-registered. According to the expected percentage-age-distribution of population aged 21 years and over, the population aged 21-35 years should be equal to the population aged 36 years and over and this is the basis for the adjustment.

Registered males 21-35 (=those aged 36 years and over)	3 578 192
Thus total males aged 21 and over	7 156 384
Males under 21 years of age	7 156 384 x 1.283 = 9 181 641
Females aged 21 and over	$\frac{7\ 156\ 384}{1.02} = 7\ 016\ 063$
Female population under 21 years of age	7 016 063 x 1.237 = 8 678 870
Thus the total population as of January 1973 was	32 032 958

The main drawback of this method is under-registration of voters, especially females. The Electoral Board noted the following problems of registration [4, pp. 59-60] :

- Failure of some registrars in understanding and implementing directives that are issued from time to time.
- A large number of people who did not show up during the scheduled registration period turned up at the closing time and thus many of these did not get the chance to register.
- The lack of birth certificates and usual residence identification cards created procedural problems of registration.
- By virtue of the mobility of nomads in search of water and pasture, many nomads were not found in their registration districts during registration.

3) National Sample Surveys and other Demographic Surveys undertaken by the Central Statistical Office

The Central Statistical Office has undertaken two rounds of multipurpose national sample surveys that covered the sedentary rural and urban areas of the country, the first round and second round being conducted in 1964-67 and 1968-71, respectively. The Office has also undertaken a population census of the two cities, Addis Ababa and Asmara. Currently, detailed urban population data will be obtained from the Manpower and Housing Sample Survey conducted in 18 major urban areas in 1978 and the Addis Ababa Demographic survey of August 1978, which are being processed.

The basic sources for the official population estimate for the surveyed areas are the two rounds of national sample surveys, especially the second round due to its better design. As a source of estimating the population size of the country, the two national sample surveys have the following weaknesses :

- Nomads were excluded.
- Due to problems of security, the population of Eritrea was not surveyed.
- A large number of urban localities was not surveyed due to problems of security and transport inaccessibility. However, in terms of total urban population coverage the majority of urban population could be considered as covered by the surveys.
- For purposes of current population estimate, the results of the two national sample surveys are out of date.

Since the population of the non-surveyed areas constitutes a significant population, the estimation of the population of Eritrea and nomadic areas is treated separately in Section III.

4) Small-Scale Agricultural Sample Survey

An estimate of the rural population was obtained from the 1976/77 Small-Scale Agricultural Sample census conducted by the Ministry of Agriculture and Settlement. Estimates obtained from the Sample census put the rural population of the surveyed regions for January 1977 at 24 080 800 [14, p.49]. It did not survey the rural population of two regions, namely Eritrea and Tigray for reasons of security and like the C.S.O.'s national Sample surveys, it excluded the nomadic population. The survey was a two-stage sample design, the first stage consisting of the stratification of farmers' associations by regions and cropping pattern and a sample of farmers' associations were selected at random and proportionally to the total number of farmers' associations in each stratum. At the second stage, some percentages of holders' households were selected [14, p.2]. As is evident from the design, the reliability of the population estimate much depends on the adequacy and completeness of the sampling frame of farmers' associations and the sampling procedure followed.

III. ESTIMATES OF THE POPULATION OF NON-SURVEYED AREAS

1) The Population of Eritrea

The two national sample surveys did not cover the rural population of Eritrea due to problems of security. However, the urban population was surveyed during the Urban Survey, First Round with the exception of some major urban areas such as Keren, Akordat, Tesseney, Om-Hajer, and Barentu. Based on administrative headcounts, the Eritrea regional administration office had put the 1965 population of Eritrea at 1 583 864 of which 1 433 864 was rural and 282 858 was urban [15, p. 34]. For the rural population this estimate is accepted, but for the urban areas the C.S.O.'s population estimate of the surveyed urban areas is accepted as reliable. The Regional Administration Office of Eritrea gave the 1965 population of the urban areas of Akordat, Keren, Om-Hajer, Tesseney and Barentu at 20 000, 17 857, 15 000, 12 000 and 5 000, respectively.

2) Estimates of the Nomadic Population

The nomads wholly or partly inhabit about 43 out of the 102 awrajas (districts) of the country and 100 weredas (sub-districts) out of the 568 weredas. In terms of land area, the nomads occupy more than one-third of the total area of the country. According to the assessment by the Ministry of Land Reform, the nomads constitute 8 percent of the total population and occupy or roam over an area of more than half of the total area of the country [6, p.3]. The nomads inhabit the lowland areas of the country which are the Northern, Western, Southern and Eastern lowlands. Nomads are found in all regions of the country but the majority of them are found in Hararge, Eritrea, Bale, Sidamo, Wollo, Tigray and Gamo-Gofa.

An attempt is made here to present estimates of nomadic populations by regions using available administrative data and other sources.

Hararge

The part of Hararge region known as Ogaden (six districts) is inhabited mostly by nomads. According to administrative data supplied by nomad chiefs, there were 660 000 nomads and 160 500 sedentary population in the Ogaden as of 1968 10, p.55 . The nomads living outside Ogaden but in other districts of Hararge are estimated to be 336 000 [13, pp. 30 and 34]. Thus, the total number of nomads in Hararge region as of 1968 can be put at 996 000.

Eritrea

There are nine districts in Eritrea and due to lack of adequate information on the districts that are inhabited by nomads, four districts namely Hamasien, Akeleguzai, Serae, and Karen are assumed sedentary and the rest nomadic or partly nomadic. Based on the 1965 administrative data, the population of the five assumed nomadic districts was 432 812.

Bale

In Bale, Elkere district and the other four sub-districts are completely nomadic. The estimated population of Elekere district as of 1970 was 138 000 and of the four sub-districts was 243 000 [10 p.54]. Hence, the estimated nomadic population as of 1970 was 281 000.

Sidamo

Borena and Arero districts are mainly nomadic and the remaining four districts are partly nomadic. The data available refer to Borena and Arero districts. A special study of the pastoralists in the two districts was undertaken by the Livestock and Meat Board which resulted in a population of 261 000 of which 236 000 are nomadic and 25 100 are sedentary [5, pp. 31-34].

Nomads in Eastern Lowlands of Wollo and Tigray

According to data supplied by administrative officials, the nomads inhabiting these areas were estimated at 150 000 in 1967. [10, p. 56].

Gamo-Gofa

Geleb and Hamer Bako is the only nomadic district and the estimated population as of January 1978 was 168 600.

Illubabor

Nomads are found in Gamballa, and Mocha districts. For January 1977, the nomads in Gambella and Mocha may be estimated at 57 500 [10, p. 57] and 30 400 [11, p. 6], respectively.

Shoa

A small number of nomads is found in three districts of the Eastern lowlands bordering the Awash valley. As of 1974, the Kereyu nomads were estimated at 10 000 [13, p.45]. The Adal nomads in Yerer and Kereyu district and the nomads found in the other two districts may be estimated at about 25 000 giving an estimated total nomads in Shoa of 35 000.

Summary

To present an estimate of the total nomads in the country, the estimated nomads by region were up-dated to January 1975 by assuming that the nomadic population grows constantly for the periods 1960-1970, and 1970-1975 at 2.2 and 2.3 percent per annum respectively. Applying these rates the estimated size of the nomadic population as of January 1975 would be 2 718 547. The estimated size of the nomadic population should be used with caution because of the weakness of the sources used. It should also be noted that the estimate is not complete due to the fact that data on the number of nomads in Keffa, Wellega, Gojjam, Begemder and Arssi regions are not available. However; the number of nomads in these regions may be assumed insignificant.

IV. RESULTS AND CONCLUSIONS

The population estimates from the various sources were up-dated to January 1975 by assuming that the population grows at a constant rate of 2.2 and 2.3 percent per annum for the periods 1960-1970 and 1970-1975 respectively (1). The results are shown in Table 35.

The estimated population size of Ethiopia in January 1975 ranges between 25 362 743 and 33 478 795. Due to the serious under-registration of voters already noted, the population estimate of 25 362 743 according to the first assumption cannot be accepted. Thus the possible population size ranges between 27 181 200 and 33 478 795. Compared with the other sources, the official estimates based on national sample surveys are too low. If we assume the mean value to approximate the true population value, the mean estimate would be 29 800 091. An assessment of the possible population size by regions was made and it resulted in a population of 30 060 400 which is accepted as the plausible new population size estimate of Ethiopia. As compared with the new population estimate, the official figure of 27 181 200 underestimated the population size by 9.6 percent. The urban and nomadic population constitute 10.4 and 9.0 percent respectively of the total population. The new population estimate by region for January 1975 and the official estimate as well as the percentage under-estimation of the official figure from the new estimate are given in Table 36. Table 37 presents data on the rural sedentary, nomadic and urban population by region in January 1975.

(1) The 2.2 percent rate was calculated from the first and second stages of the national demographic sample survey. The 2.3 percent rate was calculated from the results of the population projections for the period 1960-2000 [2].

Table 35

ETHIOPIA - ESTIMATES OF POPULATION SIZE FROM VARIOUS SOURCES -
JANUARY 1975

SOURCE	SEDENTARY RURAL POPULATION	NOMADIC POPULATION	URBAN POPULATION (a)	TOTAL
Register of voters according to :				
1st Assumption	-	-	-	25 362 743
2nd Assumption	-	-	-	28 493 887
3rd Assumption	-	-	-	33 478 795
National Sample Survey :				
First Round	-	-	-	28 185 035
Second Round	-	-	-	27 181 200
Small-Scale Agricultural Sample Census	25 817 152	2 718 547	3 125 838	31 661 537

(a) Urban population as mostly obtained from the two national Sample Surveys, and urban area defined as localities with inhabitants of 2 000 and over.

The fact that the official 1975 population figure is over-estimated is corroborated by estimates prepared for Ethiopia by the United States "Bureau of the Census". This body calculated recent demographic estimates for countries and regions throughout the world in its publication "World Population 1977". It estimated the mid-1975 Ethiopian population to be 29 529 000, or 7.3 percent higher than the official estimate at the same date (27 520 900).

Table 36

ETHIOPIA - COMPARISON OF THE NEW AND OFFICIAL ESTIMATES
BY REGION - JANUARY 1975

REGION	POPULATION (in thous ands)		DIFFERENCE	
	Official Estimate (a) (1)	New Estimate (2)	(1)-(2) = (3)	(4) = $\frac{(3)}{(2)} \times 100$
Arssi	1 007.2	1 210.1	- 202.9	- 16.8
Bale	767.5	852.0	- 84.5	- 9.9
Gamogoffa	875.9	879.5	- 3.6	- 0.4
Gojjam	1 784.0	1 869.6	- 85.6	- 4.6
Gondar	1 797.4	1 857.8	- 60.4	- 3.3
Eritrea	2 124.7	2 362.0	- 237.3	- 10.0
Hararge	2 735.2	3 145.5	- 410.3	- 13.0
Illubabor	707.5	848.3	- 140.8	- 16.6
Keffa	1 413.7	1 607.7	- 194.0	- 12.1
Shoa	5 565.4	6 337.9	- 772.5	- 12.2
Sidamo	2 457.1	2 894.2	- 437.1	- 15.1
Tigray	1 892.0	1 900.0	- 8.0	- 0.4
Wollega	1 767.9	1 780.1	- 12.2	- 0.7
Wollo	2 285.7	2 515.7	- 230.0	- 9.1
TOTAL	27 181.2	30 060.4	-2 879.2	- 9.6

(a) Source [3]

Table 37

ETHIOPIA - NEW POPULATION ESTIMATE - JANUARY 1975
(population in thousands)

REGION	RURAL SEDENTARY POPULATION	NOMADS	URBAN POPULATION	TOTAL
Arssi	1 154.6	-	55.5	1 210.1
Bale	510.9	314.1	27.0	852.0
Gamogofa	703.5	156.6	19.4	879.5
Gojjam	1 765.2	-	104.4	1 869.6
Gondar	1 735.1	-	122.7	1 857.8
Eritrea	1 276.2	-	546.7	2 362.0
Hararge	1 780.0	1 163.2	202.3	3 145.5
Illubabor	740.5	83.8	24.0	848.3
Keffa	1 525.4	-	82.3	1 607.7
Shoa	4 890.8	35.7	1 411.4	6 337.9
Sidamo	2 387.7	247.1	259.4	2 894.2
Tigray	1 688.8	89.5	121.7	1 900.0
Wollega	1 722.4	-	57.7	1 780.1
Wollo	2 335.0	89.4	91.3	2 515.7
TOTAL	24 216.1	2 718.5	3 125.8	30 060.4

Note : Ethiopia is divided administratively into 14 regions, 102 districts ("awrajas"), 570 cantons ("weredes"), about 25 000 peasant associations totalling 7 million members, and about 260 urban centres of 2 000 inhabitants and more, organised in about 1 140 urban dwellers associations.

Suggestions for Improving Data Sources

The foregoing discussions reveal that it has not been possible to estimate the population size of Ethiopia with certainty due to the fact that no census of population has been taken as of yet, and the national Sample Surveys were geographically incomplete and out of date. To fill up the current critical demographic data gap and improve their quality the following measures are strongly recommended.

- A comprehensive census of population covering all sedentary rural areas, nomadic and urban areas of the country should be taken as soon as the situation matures (it has already been noted that security problems have been a hindrance to complete geographical coverage and thus a conducive socio-political situation is a necessary condition for taking a census).
- As an interim measure, nation-wide demographic surveys should be taken to fill the data gaps. Future demographic surveys should have complete geographical coverage and be representative of all categories of the population : sedentary rural population, nomadic and urban population.
- The Central Statistical Office in cooperation with concerned offices and agencies should initiate and establish a complete and up-to-date register of the resident households within urban dwellers' associations and members of peasant association areas (farmers' associations). Such registers would produce data for estimating population size at any point in time for any administrative level by applying appropriate multipliers to the number of registered resident households and peasant members. Currently the peasants in rural areas are organised into peasant association areas on an area of about 800 hectares and having membership of about 300 peasant families. The urban population is organised into urban dwellers' association areas where each association comprises at least 2 000 urban residents. These are the smallest administrative divisions in the rural and urban areas and constitute a useful statistical frame of administrative areas.
- Expansion of the current experimental vital registration system that is under way in a sample of urban and rural registration areas. The outcome of the expansion of the experimental registration should lead to the establishment of a nationwide vital registration system subsequent to the taking of a population census.
- Establish and maintain a register of Ethiopians living abroad and foreign nationals residing in Ethiopia.
- To minimise data errors introduced from data collection to processing stage, intensive training and field checks, legible handwriting, use of mostly pre-coded questionnaires and computer-edit programmes are recommended.

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**POPULATION SIZE
IN AFRICAN COUNTRIES :
AN EVALUATION**

Volume I

Paris
1986

Le groupe de Démographie africaine IDP - INED - INSEE - MINCOOP-ORSTOM

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PUBLICATIONS DU GROUPE

- « Démographie africaine », bulletin de liaison :
 - n° 0 2^{ème} trimestre 1971 à n° 28 septembre-décembre 1978 (poursuite de cette publication à Yaoundé - IFORD)
 - numéros spéciaux 1 à 13.
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