

Imperial Ethiopian Government  
Central Statistical Office

Results of Urban Survey  
Second Round (1970)  
Gondar

Addis Ababa, March 1974.  
1963

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1. The population of the United States in 1950 was approximately 150 million. This population was distributed among various age groups and ethnicities. The population growth rate was relatively low, and the majority of the population was concentrated in the eastern and central parts of the country. The population was also becoming more diverse, with a significant increase in the number of immigrants from other countries.

2. The population of the United States in 1960 was approximately 170 million. This population was distributed among various age groups and ethnicities. The population growth rate was relatively low, and the majority of the population was concentrated in the eastern and central parts of the country. The population was also becoming more diverse, with a significant increase in the number of immigrants from other countries.

3. The population of the United States in 1970 was approximately 190 million. This population was distributed among various age groups and ethnicities. The population growth rate was relatively low, and the majority of the population was concentrated in the eastern and central parts of the country. The population was also becoming more diverse, with a significant increase in the number of immigrants from other countries.

4. The population of the United States in 1980 was approximately 210 million. This population was distributed among various age groups and ethnicities. The population growth rate was relatively low, and the majority of the population was concentrated in the eastern and central parts of the country. The population was also becoming more diverse, with a significant increase in the number of immigrants from other countries.

5. The population of the United States in 1990 was approximately 230 million. This population was distributed among various age groups and ethnicities. The population growth rate was relatively low, and the majority of the population was concentrated in the eastern and central parts of the country. The population was also becoming more diverse, with a significant increase in the number of immigrants from other countries.

6. The population of the United States in 2000 was approximately 250 million. This population was distributed among various age groups and ethnicities. The population growth rate was relatively low, and the majority of the population was concentrated in the eastern and central parts of the country. The population was also becoming more diverse, with a significant increase in the number of immigrants from other countries.

Part of population

7. The population of the United States in 2010 was approximately 270 million. This population was distributed among various age groups and ethnicities. The population growth rate was relatively low, and the majority of the population was concentrated in the eastern and central parts of the country. The population was also becoming more diverse, with a significant increase in the number of immigrants from other countries.

8. The population of the United States in 2020 was approximately 290 million. This population was distributed among various age groups and ethnicities. The population growth rate was relatively low, and the majority of the population was concentrated in the eastern and central parts of the country. The population was also becoming more diverse, with a significant increase in the number of immigrants from other countries.

9. The population of the United States in 2030 is projected to be approximately 310 million. This population is projected to be distributed among various age groups and ethnicities. The population growth rate is projected to be relatively low, and the majority of the population is projected to be concentrated in the eastern and central parts of the country. The population is also projected to be becoming more diverse, with a significant increase in the number of immigrants from other countries.

10. The population of the United States in 2040 is projected to be approximately 330 million. This population is projected to be distributed among various age groups and ethnicities. The population growth rate is projected to be relatively low, and the majority of the population is projected to be concentrated in the eastern and central parts of the country. The population is also projected to be becoming more diverse, with a significant increase in the number of immigrants from other countries.

## The 1970 Survey

of

Gondar

### I. Introduction

Background Information. One lesson that can be derived from the historical study of urbanization in the west is that, industrialization was a pre-requisite for urbanization. In Ethiopia, urbanism or the urban way of living has a long history and started long before the advent of colonization and Industrialization of the west. The ancient urban centers in Ethiopia were non-industrial based on a rural-economy and serving as centers of kingdoms and literary work accompanied by trade and craftwork. It should be stressed that their development was quite indigenous. Among the early urban-centers are Yeha, Metera, Aksum, Lalibela, Gondar, Harar etc<sup>1</sup>. Gondar in North-West Ethiopia was an important urban center which flourished in the seventeenth century. It was the capital of the kingdom of Gondar established during the reign of Emperor Fasilides (1637-67) and by the second half of the seventeenth century it had an estimated population of 80,000. Gondar was famous for its excellent architecture which is manifested in the buildings of the castles of Gondar which now stand as one of our important historical heritages. Though it is commonly observed that the significance of ancient cities in Africa has nowadays declined, Gondar still remains to be important. Whatever urban definition we follow, Gondar is one of the major urban centers in Ethiopia. Gondar satisfies legal and administrative; economic and minimum population size criteria definition of an urban area. It meets the minimum population size criterion both of the UN (20,000) and that adopted by the Central Statistical Office (2,000).

In fact according to the 1970 CSO population estimates Gondar ranks 8th in the following list of major urban centres: Addis Abeba, Asmara, Dire Dawa, Dessie, Harar, Jimma and Nazareth<sup>2</sup>.

Gondar has road and air links with Addis Ababa and Asmara. It is 748 kilometers from Addis Ababa and usually takes a day and a half by bus. "Gondar is hemmed in by mountains that rise to 3,000 meters, or over in the North, East and West. The Megech river system that drains into Lake Tana, to the south of Gondar, makes the southern approach to the town rather open. The town itself is rather hilly with a general elevation of about 2,100 meters above sea level."<sup>3</sup>

Availability of Data. So far two urban surveys have been taken in Ethiopia. The First Round of urban survey was conducted in 1964-67 and the second one in 1968-71. Gondar was first surveyed by the Central Statistical Office in 1965, and the second survey was undertaken five years later, on September, 1970.



The method of enumeration involved two stages: A count of all persons followed by a 10% sample enumeration of the households using a detailed questionnaire. The sample design followed was a systematic sampling.

The data tabulated so far include information on: age and sex, marital status, nationality, religion, mother tongue, literacy, educational attainment, household composition, length of residence, economic activity, total number of children ever born, children surviving and children born in the last twelve months tabulated by age of women and deaths occurring in the last 12 months.

Information which are vital for housing inventory and housing programmes collected during the second urban survey such as total number of housing units, number of households sharing housing units, number of persons per room, the availability of electricity, water and toilet facilities are not yet tabulated.

In this report analysis will be made of the size and growth of the population, age-structure, marital status, literacy of the population by age and sex, literacy of the working population, educational attainment of the population, religion, mother tongue, economic activity of the population as well as an attempt to estimate fertility and mortality.

## II. Population Characteristics

### Total Population:

The reported total population of Gondar in 1970 was 40,630 of which the male population was 17,380. The population of Gondar is basically Ethiopian with foreign population constituting less than one percent of the total. (See Table 1, below)

Table 1: Population by Nationality and sex, 1970.

Nationality	Males		Females		Both Sexes	
	Number	%	Number	%	Number	%
Ethiopians	17,230	99.0	23,140	99.5	40,370	99.4
Foreigners	150	1.0	110	0.5	260	0.6
TOTAL	17,380	100.0	23,250	100.0	40,630	100.0

This phenomenon of low foreign element in the population is generally true of all Ethiopian urban areas.

The method of enumeration involved two stages. A count of all persons living in the sample enumeration of the entire area was conducted. The sample enumeration followed the general principles of the census. The data collected on the census included sex, age, marital status, nativity, literacy, mother tongue, industry, occupation, household, possession, length of residence, economic position, total number of children ever born, children surviving and children born in the last twelve months tabulated by sex of women and date of occurrence in the last 12 months.

Information which was vital for housing, industry and housing programs collected during the special census survey such as total number of housing units, number of households, electric housing units, number of persons per room, the availability of electricity, water and other facilities and the availability of the report analysis will be made of the area and growth of the population, general status, literacy of the population by sex and age, literacy of the working population, educational attainment of the population, mother tongue, economic position of the population as well as an attempt to estimate literacy and mortality.

## II. Population Characteristics

### Total Population

The reported total population of the area in 1970 was 20,630 of which the male population was 11,350. The population of the area is basically English with local population concentrated just one percent of the total. (See Table 1, below)

Table 1: Population by Nationality and sex, 1970.

Nationality	Male		Female		Total
	Number	%	Number	%	
English	11,350	55.0	5,140	25.0	16,490
Portuguese	100	0.5	100	0.5	200
Total	11,450	55.5	5,240	25.5	16,690

The percentage of the total population in the population is basically true of all English speaking areas.

AGE and SEX composition of the population.

The age-sex composition of the population is given in Table 2 below.

Table 2. Recorded number and relative distribution of Gondar population by age-sex groups, and sex-ratio, 1970.

Age Group	Male		Female		Both Sexes		Sex Ratio
	Number	%	Number	%	Number	%	
0 - 4	3,490	20.1	3,290	14.2	6,780	16.7	106
5 - 9	3,500	20.1	3,420	14.7	6,920	17.0	102
10 - 14	2,370	13.6	3,280	14.1	5,650	13.9	72
15 - 19	1,070	6.2	2,280	9.8	3,350	8.2	47
20 - 24	690	4.0	1,730	7.4	2,420	6.0	40
25 - 29	960	5.5	2,060	8.9	3,020	7.4	47
30 - 34	1,090	6.3	1,900	8.2	2,990	7.4	57
35 - 39	930	5.4	1,810	7.8	2,740	6.7	51
40 - 44	1,010	5.8	1,080	4.6	2,090	5.1	93
45 - 49	730	4.2	840	3.6	1,570	3.9	87
50 - 54	630	3.6	490	2.1	1,120	2.8	129
55 - 59	370	2.1	290	1.3	660	1.6	128
60 - 64	250	1.4	220	0.9	470	1.2	114
65 - 69	130	0.8	180	0.8	310	0.8	72
70 - 74	100	0.6	190	0.9	290	0.7	53
75 - 79	40	0.2	80	0.3	120	0.3	50
80 & above	---	---	80	0.3	80	0.2	
N/S	20	0.1	30	0.1	50	0.1	
TOTAL	17,380	100.0	23,250	100.0	40,630	100.0	75

The age-sex composition of the population is given in Table 5 below.

Table 5. Recoded number and relative distribution of gender population by age-sex groups, and sex-ratio, 1970.

Age Group	Male		Female		Sex Ratio
	Number	%	Number	%	
0 - 4	2,450	50.1	2,500	47.5	106
5 - 9	2,500	50.1	2,450	47.7	108
10 - 14	2,270	47.6	2,500	47.1	95
15 - 19	1,070	22.8	2,300	42.8	41
20 - 24	850	18.0	1,750	32.4	40
25 - 29	900	19.2	1,000	18.5	47
30 - 34	1,050	22.5	1,000	18.5	51
35 - 39	1,050	22.5	1,100	20.2	52
40 - 44	1,070	22.8	1,080	20.0	53
45 - 49	1,150	24.5	900	16.5	57
50 - 54	1,050	22.5	1,100	20.2	55
55 - 59	770	16.2	1,100	20.2	58
60 - 64	550	11.6	950	17.5	61
65 - 69	450	9.5	800	14.8	65
70 - 74	400	8.5	600	11.1	73
75 - 79	40	0.8	50	0.9	80
80 & above	—	—	80	1.5	80
TOTAL	11,300	100.0	13,500	100.0	115

If we were to consider the effect of migration to be nil and assume fertility and mortality to be stable, then the population reported at successive age groups should gradually decline. However, an inspection of the data shows large irregularities in the age-sex data. Since migration in urban areas cannot be considered negligible, it is possible that the observed irregularities causing a bulge in ages 25-34 and 40-44 in the case of males and 25-39 in the case of females may be genuine. This, however, does **not** mean that the data is not subject to age misreporting and omissions. The surplus of females reported in ages 10-49 relative to males seem to be due to more female **immigrants** to Gondar than males. Since it is felt that the observed peculiarities may be genuine as a result of in-migration, no attempt at adjustment of age-sex data is made.

The population of Gondar is basically a young population with children under 15 constituting almost half of the population (47.6%) and the population 65 years and over constituting a negligible percentage of 2% only. The predominance of young children as observed in the population of Gondar is characteristic of all developing societies.

The age structure of Gondar reveals high youth dependency burden. Youth dependency burden is defined as the ratio of children under 15 to persons in the working ages 15-64. The youth dependency burden is 94 implying 94 dependant children per 100 persons in the working ages. The high youth dependency burden has serious social and economic implications. The large proportion of children in the population requires heavy expenditure for schooling on the part of the government and heavy expenditure for feeding, dressing, health care etc. on the part of the parents.

The sex ratio for the population of Gondar shows a predominance of females in the population. The sex ratio for the population was 75 males per 100 females (sex ratio is defined as the ratio of the number of males per 100 females). The sex ratio of the population has not shown any significant improvement since 1965 which was 73.3 males per 100 females. Generally, there is a predominance of females in all urban areas of Ethiopia except Jimma, especially in the urban areas of Northern Ethiopia.<sup>4</sup>

An examination of the sex ratios shows the following peculiarities.

- (a) Excess of males in the age group 0-9.
- (b) A remarkable excess of females in the age group 10-49.
- (c) Excess of males in the age group 50-64.
- (d) Excess of females for ages 65 and above.

The excess of males in the young age (5-9) could be accounted as a result of the fact that the sex ratio for the young is slightly high. The tendency for an excess of males in the young age may be due to the following reasons:

- (1) Errors in the data arising from misreporting of dates of entry of females.
- (2) The excess of females may be owing to the fact that the sex ratio in the young is not uniform. The tendency in the sex ratio in the young may be explained by certain social and economic factors. For example, in certain occupations the greater the work done, the greater the pay. Young men get employment in the services industry such as domestic services, sales and in hotels and local government services etc. The social factor may be the cause of the sex ratio of young men being slightly above the normal in the young age of 10-14 years. The sex ratio in the young age of 10-14 years is slightly above the normal in the young age of 10-14 years.

The excess of males in the age group 10-14 may possibly be due to the fact that the sex ratio in the young age is slightly above the normal. The excess of males in the young age may be due to the fact that the sex ratio in the young age is slightly above the normal.

Household Size

In 1970, there were 10,430 households in Hong Kong consisting of 40,670 persons. Table 2 shows the distribution of number of households and number of persons by household size. The average household size was 3.8 persons. The average household size has remained relatively constant since 1950. Table 2 shows the distribution of number of households and number of persons by household size.

Table 2. Number of households and persons by size of household (1970)

Size of Household	Number of Households	% of Households	Number of Persons	% of Persons
1	1,370	13.1	1,370	3.4
2	2,760	26.4	5,520	13.6
3	1,710	16.4	5,130	12.6
4	1,300	12.5	5,200	12.8
5	1,110	10.7	5,550	13.7
6	630	6.1	3,780	9.3
7	270	2.6	1,890	4.6
8	120	1.2	960	2.4
9	60	0.6	540	1.3
10 and above	210	2.0	1,680	4.1
Total	10,430	100.0	40,670	100.0

From Table 3, we observe that 14.5% of households were single person households and two third of the households have members between 1-4 persons. Almost 90% of the households have members between 1-5 persons. The percentage of households with 10 or more members was very low (2.5%).

Out of the total population of 40,630 only 3.8% persons lived in single person households. 15.4% persons lived in household size of 1-3 members. 42.8% persons lived in households of 1 up to 4 members. However, more than half of the population (57.2%) lived in household sizes of 5 or more persons.

Composition of Households

The composition of households by sex is given in Table 4 below.

Table 4. Composition of Households: 1970.

Composition	Male		Female		Both Sexes	
	Number	%	Number	%	Number	%
Head of Household	6,440	37.1	4,210	18.1	10,650	26.2
Husband	-	-	-	-	-	-
Wife	-	-	5,860	25.2	5,860	14.4
Son	9,730	56.0	-	-	9,730	24.0
Daughter	-	-	9,930	42.7	9,930	24.4
Father	10	-	-	-	10	-
Mother	-	-	310	1.3	310	0.8
Brother	250	1.4	-	-	250	0.6
Sister	-	-	480	2.1	480	1.2
Other Relative	760	4.4	1,130	4.9	1,890	4.6
Servant	140	0.8	1,290	5.6	1,430	3.5
Non Relative	20	0.1	10	-	30	-
N/S	30	0.2	30	0.1	60	0.1
Total	17,380	100.0	23,250	100.0	40,630	100.0

From Table 4, it will be seen that out of the total population of Gondar 26.2% were heads of households (male plus female), 14.4% were housewives, almost half (48.4%) were daughters and sons. Relatives and other relations constituted 10.7%. Assuming that the wife, children and other relatives were dependent on the head of the household for their maintenance, then there were 3 dependants for every head of household.



If we see the male composition of the households, the male heads constituted 37%, sons constituted 56%, relatives and other relations 6.8%. For females, female heads constituted 18%, housewives 25%, daughters 43%, relatives and other relations 14%.

Marital Condition

The marital status of the population are summarized in Table 5 and 6 (for details see appendixes 1,2).

Table 5. Marital status of the population aged 10 years and above by sex: 1970.

Marital Status	Male		Female		Both Sexes	
	Number	%	Number	%	Number	%
Single	3,960	38.2	4,550	27.7	8,510	31.8
Married	6,010	58.0	6,270	38.3	12,280	45.9
Widowed	90	0.9	1,120	6.8	1,210	4.5
Divorced	300	2.9	4,460	27.2	4,760	17.8
TOTAL	10,360	100.0	16,400	100.0	26,760	100.0

As summarized in Table 5 above, 31.8% (8510) of the population were single, 45.9% (12,280) were married, 4.5% (1210) were widowed and 17.8% (4760) were divorced. A comparison of the marital status by sex shows that there were more males who were reported single (38.2%) as compared to females (27.7%). Almost two third of males were married. The percentage of married males were considerably higher than that of females. 58% of males were married as compared to 38.3% females. Furthermore, the percentage divorced and widowed in the population was higher for females (see TABLE 5).

Table 6 gives the percentage marital status distribution of the population aged 10 years and above by age and sex groups.



Table 6 Percentage Distribution of Marital Status by Age-Sex Groups: 1970.

Age Group	Sex	Single	Married	Widowed	Divorced	TOTAL
10 - 19	M	98.8	.6	-	.6	100.0
	F	79.9	10.6	-	9.5	100.0
20 - 29	M	29.9	63.4	-	6.7	100.0
	F	2.4	59.1	1.1	37.4	100.0
30 - 39	M	2.5	94.1	0.4	3.0	100.0
	F	0.3	60.5	5.7	33.5	100.0
40 - 49	M	0.5	95.4	1.2	2.9	100.0
	F	-	51.1	11.0	37.9	100.0
50 - 59	M	1.0	93.0	2.0	4.0	100.0
	F	-	28.2	33.3	38.5	100.0
60 +	M	-	88.9	7.4	3.7	100.0
	F	2.5	12.5	32.5	52.5	100.0

In the age group 10-19 almost all males and more than three-fourth females were single. For the female population aged 10-19, 10.6% were married and 9.5% were divorced. For the age group 20-29, almost two-third males (63.4%) and 59.1% of females were married. The percentage single for males dropped significantly from 98.8% in the age group 10-19 to 29.9% in the age group 20-29. In the age group 20-29 the percentage single and widowed women was negligible whereas the percentage divorced rose to 37.4%. For the age group 30-39, the majority of the persons were married, 94.1% males and 60.5% females whereas the percentage single was negligible. For both sexes the percentage widowed was low. However, there were more divorced women (33.5%) than males (3%).

For ages 40 and above, the percentage of married males remain high ranging from 95.4% for ages 40-49 to 88.9% for ages 60 and above whereas the percentage of married females declined drastically from 51.1% for ages 40-49 to 12.5% for ages 60 and above. The sharp decline in the percentage of married females was due to the high divorce and widowhood rate. The percentage widowed rose from 11% for ages 40-49 to 33% for ages 60 and above and the divorce rate rose from 38% to 53% for the same age groups.

The following conclusion can be arrived by examining Table 6: That the percentage of married males was considerably higher than that for females and the incidence of widowhood and divorce was high for the female population. This is partly explained by the possibility of remarriage being higher for males than for females, thus lowering the percentage of widowhood and divorces among the males.

Age Group	Sex	Married	Single	Widowed	Divorced
10-14	M	98.8	1.2	0.0	0.0
10-14	F	98.8	1.2	0.0	0.0
15-19	M	98.8	1.2	0.0	0.0
15-19	F	98.8	1.2	0.0	0.0
20-24	M	98.8	1.2	0.0	0.0
20-24	F	98.8	1.2	0.0	0.0
25-29	M	98.8	1.2	0.0	0.0
25-29	F	98.8	1.2	0.0	0.0
30-34	M	98.8	1.2	0.0	0.0
30-34	F	98.8	1.2	0.0	0.0
35-39	M	98.8	1.2	0.0	0.0
35-39	F	98.8	1.2	0.0	0.0
40-44	M	98.8	1.2	0.0	0.0
40-44	F	98.8	1.2	0.0	0.0
45-49	M	98.8	1.2	0.0	0.0
45-49	F	98.8	1.2	0.0	0.0
50-54	M	98.8	1.2	0.0	0.0
50-54	F	98.8	1.2	0.0	0.0
55-59	M	98.8	1.2	0.0	0.0
55-59	F	98.8	1.2	0.0	0.0
60-64	M	98.8	1.2	0.0	0.0
60-64	F	98.8	1.2	0.0	0.0
65-69	M	98.8	1.2	0.0	0.0
65-69	F	98.8	1.2	0.0	0.0
70-74	M	98.8	1.2	0.0	0.0
70-74	F	98.8	1.2	0.0	0.0
75-79	M	98.8	1.2	0.0	0.0
75-79	F	98.8	1.2	0.0	0.0
80-84	M	98.8	1.2	0.0	0.0
80-84	F	98.8	1.2	0.0	0.0
85-89	M	98.8	1.2	0.0	0.0
85-89	F	98.8	1.2	0.0	0.0
90-94	M	98.8	1.2	0.0	0.0
90-94	F	98.8	1.2	0.0	0.0
95-99	M	98.8	1.2	0.0	0.0
95-99	F	98.8	1.2	0.0	0.0

The following conclusion can be drawn by examining Table 6. The percentage of married males was consistently higher than for females and the percentage of widowed and divorced was high for the female population. This is fully explained by the possibility of remarriage being higher for males than for females, thus lowering the percentage of widowed and divorced among the male population. For both sexes the widowed and divorced were low. However, there were more divorced women (13.3%) than men (8.0%).

For ages 10 and above, the percentage of married males remains high, ranging from 97.5% for ages 10-14 to 98.8% for ages 60 and above whereas the percentage of married females declined dramatically from 98.8% for ages 10-14 to 97.5% for ages 60 and above. The sharp decline in the percentage of married females was due to the high divorce and widowed rates. The percentage of widowed rose from 0.0% for ages 10-14 to 1.2% for ages 60 and above.

Language

The distribution of the population by mother tongue i.e. Amharic, Galigna, Guragigna, Tigrigna etc. is given in Table 7 below.

Table 7. Population by Mother Tongue and Sex: 1970.

Mother Tongue	Male		Female		Both Sexes	
	Number	%	Number	%	Number	%
Amharic	15,600	89.8	21,650	93.1	37,250	91.7
Galigna	130	0.7	110	0.5	240	0.6
Guragigna	-	-	20	0.1	20	0.0
Tigrigna	1,450	8.3	1,380	5.9	2,830	7.0
Other Language	200	1.2	90	0.4	290	0.7
TOTAL	17,380	100.0	23,250	100.0	40,630	100.0

Amharic was the predominant language spoken by about 92% of the resident and next in importance comes Tigrigna which was the mother tongue of 7% (2830) of the population. The predominance of Tigrigna next to Amharic over the rest of Ethiopian languages can be explained in terms of the historical and cultural links that exist between the population of Gondar and the Tigrigna speaking population and also the proximity of distance between the two language populations.

A comparison with the 1965 data<sup>6</sup> shows that there has been an increase in the persons reporting Amharic as their mother tongue by 5.1% and a decline in persons reporting Tigrigna as their mother tongue by 3%.

Sex wise there were more females with Amharic as their mother tongue than males and, the reverse is true for those with Tigrigna as their mother tongue. For a detailed classification of mother tongue by age groups, see appendix 3.

Religion

The population of Gondar classified by religion and sex is presented in Table 8 below.



Table 8. Total Population by Religion and Sex: 1970.

Religion	Male		Female		Both Sexes	
	Number	%	Number	%	Number	%
Orthodox	14,670	84.4	20,380	87.7	35,050	86.3
Other-Christian	30	0.2	10	0.0	40	0.1
Moslems	2,600	15.0	2,770	11.9	5,370	13.2
Others	40	0.2	70	0.3	110	0.3
Not Stated	40	0.2	20	0.1	60	0.1
TOTAL	17,380	100.0	23,250	100.0	40,630	100.0

The dominant religion of Gondar is the Ethiopian Orthodox Church with more than 80% of the population followed by muslims at 13.2%. The other religious sects had less than 1% percent of the population.

The religious composition of the population has not changed over the 1965 survey results.<sup>7</sup>

#### Literacy

The question on literacy asked for persons aged 10 years and above is defined as the ability of a person to read and write a simple statement concerning his daily life, in any language of script. The literacy of the population by sex is given in Table 9. below.

Table 9. Literacy of the population aged 10 years and over: 1970.

Literacy Status	Male		Female		Both Sexes	
	Number	%	Number	%	Number	%
Literate	7,290	70.3	3,720	22.6	9,790	36.4
Read only	20	0.3	60	0.5	80	5.1
Illiterate	3,050	29.4	12,690	76.9	15,730	58.5
TOTAL	10,370 <sup>*</sup>	100.0	16,510 <sup>*</sup>	100.0	26,880 <sup>*</sup>	100.0

\* The subtotals by literacy status for males, females and total population do not add up exactly to the total males, females and total population aged 10 years and above because the number of persons with literacy status not stated are excluded.



From Table 9, we see that the literate population were 9,790 (36.4%) and illiterate were 15,730 (58.5%). The literacy rate for males was about 70% and for females was about 23%. Thus, the majority of the population was reported illiterate. There is sex as well as age differentials in literacy (see Table 10 below).

Table 10 Literacy of the population aged 10 years and over by age-sex groups: 1970.

Age Group	Males		Females		Both Sexes	
	Number	% Literate <sup>1</sup>	Number	% Literate <sup>1</sup>	Number	% Literate <sup>1</sup>
10 - 14	2,370	94.1	3,280	70.1	5,650	80.2
15 - 19	1,070	91.6	2,280	39.5	3,350	30.4
20 - 24	690	68.1	1,730	9.8	2,420	21.5
25 - 29	960	69.8	2,060	10.2	3,020	24.2
30 - 34	1,090	59.6	1,900	3.7	2,990	22.1
35 - 39	930	62.4	1,810	2.2	2,740	21.5
40 - 44	1,010	62.4	1,080	1.9	2,090	30.6
45 - 49	730	53.4	840	0	1,570	24.8
50 - 54	630	55.6	490	0	1,120	32.1
55 - 59	370	35.1	290	0	660	19.7
60 - 64	250	48.0	220	0	470	25.5
65 +	260	34.6	530	0	800	12.5
TOTAL	10,370	70.3	16,510	22.6	26,880	36.4

<sup>1</sup> % literate is calculated as the ratio of the number of persons literate in any age group divided by the total number of persons in the same age group times 100.

Table 10 above gives the age-specific literacy rates. The highest literacy rates were in age groups 10-14, 15-19 and especially for males the literacy rates in these age groups were above 90%. Thereafter for subsequent age groups the literacy rates decline with the exception of some modest fluctuations (the fluctuations may be due to reporting errors or because some age groups may have more literate migrants). For males, the literacy rate for ages 20-54 range between 50-70%.

A comparison of the age-specific literacy rates by sex shows that the literacy rate for women were considerably lower than that for males. In the case of females, the literacy rate for women aged 45 and above was nil.

From Table 2, we see that the distribution of the number of persons in any group divided by the total number of persons in the same age group, 100, is given by the following table. The distribution of the number of persons in any group divided by the total number of persons in the same age group, 100, is given by the following table. The distribution of the number of persons in any group divided by the total number of persons in the same age group, 100, is given by the following table.

Table 2. Distribution of the number of persons in any group divided by the total number of persons in the same age group, 100.

Age Group	Number of Persons		Percentage	
	Number	Percentage	Number	Percentage
0-4	1,000	10.0	1,000	10.0
5-9	1,000	10.0	1,000	10.0
10-14	1,000	10.0	1,000	10.0
15-19	1,000	10.0	1,000	10.0
20-24	1,000	10.0	1,000	10.0
25-29	1,000	10.0	1,000	10.0
30-34	1,000	10.0	1,000	10.0
35-39	1,000	10.0	1,000	10.0
40-44	1,000	10.0	1,000	10.0
45-49	1,000	10.0	1,000	10.0
50-54	1,000	10.0	1,000	10.0
55-59	1,000	10.0	1,000	10.0
60-64	1,000	10.0	1,000	10.0
65-69	1,000	10.0	1,000	10.0
70-74	1,000	10.0	1,000	10.0
75-79	1,000	10.0	1,000	10.0
80-84	1,000	10.0	1,000	10.0
85-89	1,000	10.0	1,000	10.0
90-94	1,000	10.0	1,000	10.0
95-99	1,000	10.0	1,000	10.0
Total	10,000	100.0	10,000	100.0

The distribution of the number of persons in any group divided by the total number of persons in the same age group, 100, is given by the following table. The distribution of the number of persons in any group divided by the total number of persons in the same age group, 100, is given by the following table. The distribution of the number of persons in any group divided by the total number of persons in the same age group, 100, is given by the following table.

Educational attainment

Table 11 - Population classified by educational attainment and age groups: 1970

Age Group	Never been to school	Attending or Attended Church or Koranic School	Grades 1-4	Grades 5-11	Obtained School Leaving Certificate	Attended Univ. but not yet obtained Bachelor's Degree	Bachelor's Degree Holder	
10 - 14	1,050	80	2,120	2,370	--	--	--	--
15 - 19	1,450	20	290	1,490	80	10	--	--
20 - 24	1,780	30	170	270	60	10	--	--
25 - 29	2,120	160	120	310	130	60	20	--
30 - 34	2,270	230	50	120	60	10	20	--
35 - 39	2,100	320	10	90	60	10	20	--
40 - 44	1,430	480	60	20	--	20	--	--
45 - 49	1,180	290	20	30	--	40	--	--
50 - 54	760	330	--	10	--	--	--	--
55 - 59	530	110	--	--	10	--	--	--
60 - 64	350	110	--	--	--	10	--	--
65 - 69	270	30	--	--	--	--	--	--
70 - 74	250	30	--	--	--	--	10	--
75 +	210	30	--	10	--	--	--	--
TOTAL	15,750	2,250	2,910	5,260	400	170	70	26,810
%	58.7	8.4	10.9	19.6	1.5	0.6	0.3	100.0



The population 10 years and above was 26,810 in number, but this excludes 70 persons who have not stated their educational attainment. Of the total population aged 10 and above, about 59% have never been to school, about 8% were attending or have attended church or Koranic school. While some 11% were in grade 1-4, about 20% were in grades 5-11, and some 2% obtained school leaving certificate, and those with post high school qualification comprised of less than 1% of the population.

It will be observed that the educational level of the population of Gondar was very low in view of the fact that those who can hold professional and intermediate jobs (those with school leaving certificate and higher) only constituted 2.4% of the population aged 10 years and over. Of the total population 10 years and over 41% were attending or have attended schools. This figure slightly exceeds the population reported as literate who were, 36% (see Table 9). This may be due to the fact that some of the students who were attending church, koranic as well as some of the students in their first year at school were not able to read and write. Those with at least grade 5 education in the population were 5,900 (22%). Furthermore, an examination of the population by age groups shows that the literate population were concentrated in the young adult ages 10-44. For a separate classification of educational attainment by sex, see appendixes 4 and 5.

### III. ECONOMIC CHARACTERISTICS OF THE POPULATION:

#### A. ECONOMICALLY ACTIVE & NON-ACTIVE POPULATION

Of the total population in working ages 10-59, 10,740 persons (42%) were economically active i.e. working population and 14,830 (58%) were not economically active (See Table 12).

Table 12 Economically active and Non Active Population (10-59 years): 1970.

	Male		Female		Both Sexes	
	Number	%	Number	%	Number	%
Economically Active	6,010	60	4,730	30	10,740	42
Economically Non-Active	3,850	40	10,980	70	14,830	58
TOTAL	9,860	100	15,710	100	25,570	100

The population of the State was 25,000 in 1900, and this included  
 those who have not attained the educational attainment of the year  
 1900. It is to be noted that the educational level of the population of  
 1900 was not attained in 1900, and that the educational level of the  
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 educational level of the population of 1900 was not attained in 1900.

THE EDUCATIONAL ATTAINMENT OF THE POPULATION

A. EDUCATIONAL ATTAINMENT OF THE POPULATION

Of the total population in working ages 10-65, 10,750 persons (52%) were  
 essentially native born, working population and 14,600 (58%) were not essentially  
 native born. The total population in working ages 10-65 was 25,350 persons (100%).

Total Population	Essentially Native Born		Not Essentially Native Born	
	Number	Percentage	Number	Percentage
25,350	10,750	42.4%	14,600	57.6%
10,750	10,750	100%	0	0%
14,600	0	0%	14,600	100%

The working population consists of those individuals who take part in the production of economic goods and services, including unpaid family workers in an economic enterprise as well as persons who work for pay or profit. Labour force includes employed and unemployed person,<sup>8</sup> and accordingly the labour force of Gondar was 10,740. Of the male population these economically active were 6,010 while the female labour force stood at 4,730. It will be observed that only a third of the females were economically productive while the percentage of male labour force was double that of the female labour force.

**B. ECONOMIC PARTICIPATION OF THE POPULATION:**

Table 13 below gives the economic participation rates of the population by age - sex groups. The economic participation rate of the population is defined as the ratio of the working population to the total population usually computed with reference to a given sex - age group.<sup>9</sup>

Table 13. Economic Participation Rates of the Population by age - sex groups: 1970.

Age-Group	Male	Female	Both Sexes
10 - 14	3.8	12.5	8.8
15 - 19	14.0	28.1	23.9
20 - 24	81.0	31.8	45.9
25 - 29	94.8	33.5	53.0
30 - 34	100.0	34.2	58.2
35 - 39	100.0	37.0	58.4
40 - 44	97.0	39.8	62.7
45 - 49	83.4	38.1	59.2
50 - 54	71.4	51.0	62.5
55 - 59	62.2	42.4	53.0
TOTAL	61.0	30.1	42.0

In the adult ages 25-59, more than half of the population participate in economic activity. For these age groups more males were economically active than females and especially for age groups 30-39 practically all males were economically active. For females, the labour force participation rate never reach even 40% except for ages 50-59 which may be due to reporting errors.

The working population consists of those individuals who are in the  
 position of economic goods and services, including unpaid family workers in the  
 domestic enterprises as well as persons who work for pay in the labor force  
 either employed and unemployed persons, and seasonally the labor force  
 was 10,710. Of the male population and economically active was 6,010  
 the female labor force stood at 4,700. It will be observed that only a  
 part of the female population was economically active with the percentage of only  
 four percent was double that of the female labor force.

TABLE II - ECONOMIC PARTICIPATION OF THE POPULATION

Table II shows the economic participation rates of the population by  
 sex and age group. The economic participation rate of the population is defined  
 as the ratio of the working population to the total population usually employed  
 in relation to a given sex and age group.

Table II - Economic Participation Rates of the Population by Sex and Age Group: 1970

Age Group	Male	Female	Both Sexes
15-19	10.8	12.2	11.5
20-24	14.0	18.1	16.0
25-29	17.0	21.0	19.0
30-34	24.0	27.0	25.5
35-39	31.0	34.0	32.5
40-44	38.0	41.0	39.5
45-49	45.0	48.0	46.5
50-54	52.0	55.0	53.5
55-59	59.0	62.0	60.5
60-64	66.0	69.0	67.5
65-69	73.0	76.0	74.5
70-74	80.0	83.0	81.5
75-79	87.0	90.0	88.5
80-84	94.0	97.0	95.5
85-89	101.0	104.0	102.5
90-94	108.0	111.0	109.5
95-99	115.0	118.0	116.5
TOTAL	61.0	60.1	60.5

In the age group 25-29, more than half of the population participated in  
 economic activities. For those age groups where males were economically active  
 the female rate was generally low as shown in Table II. In the age  
 economically active. For females, the labor force participation rate  
 was over 100 percent for age 20-29 which may be due to reporting errors.

The labour force participation rates were low in the young adult ages 10-24. In the case of males only about 4 persons out of 100 were economically active in the young age group 10-14, 14 persons out of 100 in the age group 15-19. For the same age groups, the economic activity rates for females were higher, 12.5%, 28.1% respectively. The low participation rates in the young ages 10-24 and especially 10-19, in the case of males was due to the fact that the majority of the population in these age groups were students who were not economically active and in the case of females it was due to a large proportion of inactive students and home-makers.

It will be observed that the labour force participation rates for both sexes for age group 10-14 were negligible (3.8% for males and 12.5% for females). This result would suggest that the lower age limit for entry into the labour force should be 15 rather than 10 as used in international comparisons of labour force studies.

C. OCCUPATION

Table 14 gives the occupational profile of the population.

Table 14 Occupational Classification of the Population: 1970.

	Number	%
Professional, technical and related workers	640	6.0
Administrative and related workers	40	0.0
Clerical and related workers	500	4.7
Sales workers	1,710	15.9
Service workers	2,230	20.8
Agriculture, husbandry and forestry	630	5.9
Production and related workers	2,800	26.2
Transport equipment operators	200	2.0
Labourers	1,400	13.2
Workers not classified by occupation	570	5.3
TOTAL	10,740	100.0

As of 1970, the labour force size of Gondar was 10,740. It will be observed that the majority of the workers were: production and related workers (26.2%), service workers (20.8%), sales workers (15.9%) and labourers (13.2%). The skilled personnel, professional, Administrative, managerial, clerical and related workers only constituted 10.7%.



This low level of skilled personnel reflects the low level of economic and social development in Gondar. With increased technological and social development the proportion of skilled personnel in relation to the unskilled personnel will rise.

D. Status:

Status (as employer, employee etc) refers to the status of an economically active individual with respect to his employment.

The conventional classification of status is employer, employee, own account worker and unpaid family worker. Although the enumerators manual specify the collection of employment status data by this conventional classification, no information on number of employers was returned in the survey result. It seems that the enumerators grouped employers and own account workers as own account workers. This is substantiated by the fact that carpenters, traders, hotel owners tella and tej sellers, shoe makers etc. who usually hire employees were reported as own account workers. Thus, the number of own account workers would give a rough estimate of the number of employers though it may be on the high side since it includes own account workers.

Table 15. Status of the Population by Sex: 1970.

Employment Status	Male		Female		Both Sexes	
	Number	%	Number	%	Number	%
Employee	3,470	57.7	1,800	38.1	5,270	49.1
Own account worker	2,330	38.8	2,670	56.4	5,000	46.6
Unpaid family worker	210	3.5	260	5.5	470	4.3
TOTAL	6,010	100.0	4,730	100.0	10,740	100.0

The number of employees in the population was 5,270 (49.1%) and the number of own account workers (own account workers plus employers) was 5,000 (46.6%). The unpaid family workers were very few (470 persons).

Sex wise there were more male employees than females and more females participate in the economy as own account workers.

... level of skilled personnel reflects the low level of training and social  
 investment in Germany. With increased technological and social development the  
 position of skilled personnel in relation to the unskilled personnel will rise.

D. Statistics

Statistics (on employees, employer etc) relate to the status of an economically  
 active individual with respect to his employment.

The conventional classification of status is employer, employee, own account  
 worker and unpaid family worker. Although the numbers are usually given by the  
 classification of employment status data by this conventional classification, an  
 alternative number of employees was returned in the survey results. It seems  
 that the enumerators grouped employers and own account workers as one account  
 workers. This is substantiated by the fact that employers, traders, hotel owners,  
 etc and job holders, also makers etc. the usually list employees were reported  
 as own account workers. Thus the number of own account workers would give a  
 better picture of the number of employees though it may be on the high side since  
 it includes own account workers.

Table 17. Status of the Population by Sex 1970.

Employment Status	Male		Female		Total
	Number	%	Number	%	
Employer	1,400	17.7	1,800	22.1	3,200
Own account worker	1,100	13.8	1,500	18.8	2,600
Unpaid family worker	200	2.5	300	3.7	500
Other	2,000	25.0	2,700	33.4	4,700
Total	4,700	59.0	8,100	100.0	12,800

The number of employees in the population was 2,370 (18.5%) and the number  
 of own account workers (own account workers and employers) was 2,600 (20.3%).  
 The unpaid family workers were 500 (3.9%).  
 It will thus be seen that employees are the largest and own account  
 workers are the smallest in the economy as far as employment is concerned.

E. Economically Non-Active Population

Table 16. Economically Non-Active population by reason for not working: 1970.

Reason for Not working	Male		Female		Both Sexes	
	Number	%	Number	%	Number	%
Student	3,310	86.0	3,020	27.5	6,330	42.7
Home maker	10	0.0	7,150	65.1	7,160	48.3
Income recipient	430	11.4	680	6.2	1,110	7.5
Physically disabled	40	1.0	50	.5	90	.6
Others	60	1.6	80	.7	140	.9
TOTAL	3,850	100.0	10,980	100.0	14,830	100.0

In 1970, there were 3,850 males; 10,980 females giving a total population of 14,830 who were not working i.e. economically not active. Most of the economically inactive males, 3,310 (86%) were students and the second major group of economically inactive population were income recipients constituting 11.4% (430). For females the dominant category of economically inactive population were homemakers and students comprising of 65.1% and 27.5% respectively. It will be observed that the percentage of male homemakers was nil in contrast of females who constituted 65.1%.

For the population as a whole the major category of economically inactive population were: Homemakers and students.

F. Literacy of the Labour Force

The classification of workers by occupation, sex and percent literate is given in Table 17 below. The percent literate was computed by dividing those who can read and write for any age group by the total number of persons reported as working for the same age group.

Table 17. Literacy of the Labour Force by sex: 1970.

Occupation	Male		Female		Both Sexes	
	Number	% Literate	Number	% Literate	Number	% Literate
Professional technical and related workers	540	94.9	100	90.0	640	94.2
Administrative and managerial workers	40	100.0	-	-	40	100.0
Clerical and related workers	460	97.8	40	75.0	500	96.0
Sales workers	1,170	52.1	540	1.8	1,710	36.3
Service workers	910	73.9	1,320	3.0	2,230	32.3
Agriculture, husbandry and forestry	520	26.9	110	0.0	630	22.2
Production and related workers	660	37.9	2,140	0.0	2,900	8.9
Transport equipment operators	220	72.7	-	-	220	72.7
Labourers	920	26.1	480	4.2	1,400	18.6
Workers not classified by occupation	570	93.0	-	-	570	93.0
TOTAL	6,010	60.9	4,730	4.0	10,740	35.8

Industry	Total		Males		Females	
	Number	%	Number	%	Number	%
Manufacturing	2,810	68.7	2,000	71.5	810	27.2
Construction	10	0.2	7,100	23.7	7,090	23.5
Transportation and communication	430	11.1	300	9.3	130	4.0
Trade	10	0.2	30	0.9	0	0.0
Services	60	1.4	20	0.6	40	1.2
Total	3,850	100.0	10,380	100.0	10,380	100.0

In 1970, there were 1,800 males and 700 females in the labor force. Of these, 2,810 (73.8%) were in manufacturing, 10 (0.3%) in construction, 430 (11.2%) in transportation and communication, 10 (0.3%) in trade, and 60 (1.6%) in services. The distribution of the labor force by sex and industry is shown in Table 1. The distribution of the labor force by sex and industry is shown in Table 1. The distribution of the labor force by sex and industry is shown in Table 1.

Table 2. Distribution of the labor force by sex and industry, 1970.

The distribution of the labor force by sex and industry is shown in Table 2. The distribution of the labor force by sex and industry is shown in Table 2. The distribution of the labor force by sex and industry is shown in Table 2.

Occupation	Total		Males		Females	
	Number	%	Number	%	Number	%
Professional and technical occupations	280	7.3	240	7.3	40	1.2
Administrative and managerial occupations	40	1.0	30	0.9	10	0.3
Skilled and semi-skilled workers	1,800	46.8	1,300	40.0	500	15.0
Sales workers	200	5.2	150	4.6	50	1.5
Service workers	300	7.8	200	6.1	100	3.0
Unemployed	600	15.6	400	12.2	200	6.0
Other and unclassified workers	150	3.9	100	3.0	50	1.5
Total	3,850	100.0	10,380	100.0	10,380	100.0

The table shows the following occupational categories to be highly literate: professional, technical and related workers; administrative and managerial workers; clerical and related workers; workers not classified by occupation and transport equipment operators. The remaining occupational categories have very low literacy rate. Besides the occupational differences in literacy there is also sex differentials in literacy. Male workers were more literate than female workers. In the case of males, especially for the first three occupational categories almost all of them were literate. Although a large proportion of sales workers, service workers, production and related workers in the population were females, their literacy rate was miserably low ranging from 0 to 3%. Out of 6,010 male workers and 4,730 female workers, only 60.9% males and 4.0% females were literate.

The cross classification of occupational profile of the population by literacy is inadequate to assess the educational level of the labour force. If data were available to enable us to cross classify occupational category by educational attainment then the analysis would have been more fruitful to assess the educational level of the labour force.

### Vital Rates

#### Definitions

1. Crude birth rate is the ratio of the annual number of births to the mid year population in the calendar year expressed per 1,000.
2. Crude death rate is the ratio of the annual number of deaths to the mid year population in the calendar year expressed per 1,000.
3. Rate of Natural increase is the difference between crude birth rate and crude death rate. It gives the rate at which the population is growing naturally.
4. Growth Rate = Births - deaths + (In migration - out migration).
5. TOTAL Fertility Rate refers to the total number of children that would be born to a woman who passed her reproductive period and experiences the current schedules of fertility rates.
6. Gross Reproduction Rate refers to the total number of daughters that would be born to a woman who passed her reproductive period and experiences the current schedules of fertility rates.
7.  $q_2$  is the probability of a child dying before reaching age two.



Estimates of Fertility and Mortality

Table 18. Reported and Adjusted total number of children ever born per woman and age specific Fertility Rates: 1970.

Age-Group	Total children ever born		Age-Specific Fertility Rates	
	Reported	Adjusted	Reported	Adjusted
15 - 19	0.180	0.302	0.044	.086
20 - 24	1.376	1.711	0.150	.293
25 - 29	2.136	2.745	0.092	.180
30 - 34	3.463	4.315	0.116	.227
35 - 39	4.122	5.218	0.127	.248
40 - 44	4.000	5.339	0.018	.035
45 - 49	3.988	5.583	0.024	.047
50 - 54	3.347	5.583		
55 - 59	3.759	5.583		
60 - 64	3.818	5.583		
65 - 69	2.611	5.583		
Total fertility Rate		5.583	2.856	5.583

The data on fertility and mortality are limited and defective and thus much reliability can not be attached to the estimates obtained without adjustment. Table 18 shows the reported average number of children ever born per woman tabulated by age of women and the reported age - specific fertility rates. Based on current fertility of children born in the last twelve months, a total fertility rate of 2.856 is obtained. If age reporting was correct, the total number of children ever born for the age group 45 - 49 which is about 4 should represent total fertility. This estimate of total fertility rate is low, especially that based on age - specific fertility rates. The under-estimation of fertility may be due to over-reporting of females in the reproductive ages or possibly omissions of current births and total number of children ever born.

It is usually observed that the total number of children ever born per women start declining after ages 45 - 49. This error is due to memory lapse (i.e. older women tend to forget the total number of children they have born). A method has been developed by Das Gupta and others<sup>11</sup> to adjust for the declining total fertility resulting from memory lapse. Following that method an adjusted total fertility of 5.583 and gross reproduction rate of 2.72 was obtained (given sex ratio at birth of 105). The level of age - specific fertility rates were adjusted by multiplying it by a correction factor of 1.955. Based on the adjusted age - specific fertility rate, a crude birth rate of 45 per 1,000 was obtained.

and adjusted total number of children over born per woman  
and a weighted family rate

Age Group	Total children		Age-Specific Fertility Rates	
	Reported	Adjusted	Reported	Adjusted
15-19	0.100	0.100	0.000	0.000
20-24	1.370	1.370	0.170	0.170
25-29	2.130	2.130	0.280	0.280
30-34	3.460	3.460	0.440	0.440
35-39	4.100	4.100	0.530	0.530
40-44	4.000	4.000	0.510	0.510
45-49	3.200	3.200	0.410	0.410
50-54	1.300	1.300	0.170	0.170
55-59	0.300	0.300	0.040	0.040
60-64	0.000	0.000	0.000	0.000
65-69	0.000	0.000	0.000	0.000
Total Fertility Rate	22.100	22.100	2.600	2.600

The data on fertility and mortality are listed in the following table and are based on the data reported in the survey.

It is noted that the reported number of children ever born per woman tabulated in the survey and the reported age-specific fertility rates based on current data of children born to women aged 15-49, a total fertility rate of 2.600.

If the reported age-specific fertility rates are based on the total number of children born for the age group 15-49, which is 22.100, the total fertility rate is 2.600.

The above tabulation shows that the reported fertility rates are based on the total number of children born for the age group 15-49, which is 22.100, and the total fertility rate is 2.600.

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The survey gave a very unrealistic crude death rate of 1.4 per 1,000. Using Sullivan's modification of Brass method of Estimating child mortality<sup>12</sup>, the probability of a child dying before reaching age two ( $q_2$ ) is estimated as 0.149. This means that out of 1,000 children born, 149 of them die before reaching age 2 and 851 of them survive to age 2. A crude birth rate of 45 per 1,000 and child mortality of 1.1 per 1,000 would approximately give a crude death rate of 20 per 1,000.

Table 14 Estimated vital rates for Gondar: 1970.

Crude birth rate	45 per 1,000
Crude death rate	20 " "
Rate of Natural increase	25 " "
Rate of Growth due to migration	40 " "
Growth Rate	65 " "
( $q_2$ )	149 " "
TOTAL Fertility Rate	5.58
Gross Reproduction Rate	2.72

MIGRATION

The data on migration relates to information on length of residence which could be utilized to classify the population into migrants and non-migrants. However, the question on length of residence was defective and it did not collect information on those born in Gondar and were also staying there at the time of the survey. Thus the analysis here is limited and is only restricted to the classification of the population by length of residence.

Table 20 Population by Length of Residence: 1970.

Number of years stayed	Male		Female		Both Sexes	
	Number	%	Number	%	Number	%
0	1,240	7.1	1,860	8.0	3,100	7.6
1	970	5.6	1,150	4.9	2,120	5.2
2	1,090	6.3	1,360	5.8	2,400	6.0
3	890	5.1	1,040	4.5	1,930	4.8
4	960	5.5	1,080	4.6	2,040	5.0
5	950	5.5	1,010	4.3	1,960	4.8
6 +	11,080	63.8	15,520	66.8	26,600	65.5
TOTAL	17,380	100.0	23,250	100.0	40,630	100.0

The survey data show that the mortality rate of children under 5 years of age is 1.00 per 1,000 live births. This is a reduction of 1.00 per 1,000 live births from the 2.00 per 1,000 live births recorded in 1950. The mortality rate of children under 5 years of age is 1.00 per 1,000 live births, which is 1.00 per 1,000 live births less than the 2.00 per 1,000 live births recorded in 1950. The mortality rate of children under 5 years of age is 1.00 per 1,000 live births, which is 1.00 per 1,000 live births less than the 2.00 per 1,000 live births recorded in 1950. The mortality rate of children under 5 years of age is 1.00 per 1,000 live births, which is 1.00 per 1,000 live births less than the 2.00 per 1,000 live births recorded in 1950.

Estimated vital statistics for County, 1950.

55 per 1,000	Growth rate
40 "	Rate of growth due to migration
40 "	Rate of Natural increase
85 "	Crude death rate
20 "	Crude birth rate

MIGRATION

The data on migration refer to information on length of residence which was obtained by directly interviewing the population into migrants and non-migrants. However, the information on length of residence was defective and it did not reflect migration on those born in Canada and who were also staying there at the time of the survey. Thus the analysis here is limited and is only restricted to the classification of the population by length of residence.

Table 20 Population by length of residence: 1950.

Number of years	Rate		People		Both sexes	
	Number	%	Number	%	Number	%
0	1,240	1.1	1,880	1.0	3,100	1.6
1	370	0.3	4,130	2.2	5,150	2.7
2	1,000	0.9	1,360	0.7	2,400	1.2
3	880	0.8	1,000	0.5	1,930	1.0
4	900	0.8	1,000	0.5	2,000	1.0
5	900	0.8	1,000	0.5	2,000	1.0
6+	11,000	9.9	12,280	6.6	28,000	14.5
TOTAL	17,290	100.0	192,280	100.0	302,280	100.0

From Table 20, we see that 65.5% of the population had lived in Gondar for 6 years or more, 4.8% for 5 years. If we assume that the ratio of migrants to non migrants was the same as that of 1965, the number of migrants to Gondar as of 1970 would be 17,755 (43.7) and non migrants 22,875 (56.3%).

Population Growth

The population of Gondar is growing at a remarkably faster rate during the period 1965 - 1970 unlike that of 1939 - 65 which was less than 1% per annum. In 1965, the population of Gondar was 29,570. During the period 1965 - 1970, the population was growing at a high rate of 6.5% per annum. This rate of growth is almost the same as the rate of growth estimated for urban localities with population 2,000 and over which is 6.6% but higher than the rate estimated for urban areas with populations between 20,000 and 100,000 which is 5.3% per annum. The rate of growth for Gondar is, however, less than the growth of the city populations of 100,00 and over (Addis Ababa and Asmara) which is 7.1% per annum. <sup>13</sup>

The growth rate of 6.5% per annum includes growth due to migration and natural growth. The rate of natural growth (births - deaths) is estimated at 2.5% per annum and the rate of growth due to internal migration is thus 4%. Assuming that the population would continue to grow at 6.5% per annum, the population of Gondar would double (81,230) by the beginning of the next decade.

Appendix A

A Note on the Methodology of Fertility  
and Mortality estimation

The distribution of children ever born per woman tabulated by age of women show a decline after age group 45 - 49. This error is due to memory lapse. Reported total number of children ever born per woman.

Age Group	Children ever born per woman
15 - 19	0.180
20 - 24	1.376
25 - 29	2.136
30 - 34	3.463
35 - 39	4.122
40 - 44	4.000
45 - 49	3.988
50 - 54	3.347
55 - 59	3.759
60 - 64	3.818
65 - 69	2.611

From Table 20, we see that 85% of the population had lived in London for  
 10 years or more. In 1957, the number of persons in London was  
 1,722 (0.1) and in 1951, 1,717 (0.1).

Population Growth

The population of London is growing at a remarkably fast rate during the  
 years 1952 - 1957. It is estimated that in 1952 the population was 2,719,000 and in 1957, the  
 population was growing at a rate of 0.5% per annum. This rate of growth  
 is almost the same as the rate of growth estimated for other localities with  
 populations between 20,000 and 100,000 which is 0.5% per annum.  
 The rate of growth for London is, however, less than the growth of the city  
 as a whole (Adults Above and below) which is 1.1% per annum.  
 The growth rate of 0.5% per annum includes growth due to natural and  
 total growth. The rate of natural growth (births - deaths) is estimated at  
 0.5% per annum and the rate of growth due to natural migration is 0.6%  
 per annum. The population would continue to grow at 0.5% per annum, the  
 population of London would double (10,000) in the beginning of the next decade.

Notes on the Methodology of Estimation  
 and Assumptions

The distribution of population in London is based on the 1951 census of women  
 and a further check on the 1957 - 1958 data. This check is due to many factors  
 which affect the total number of children born per woman.

Age Group	Number of women
15 - 19	5,100
20 - 24	370
25 - 29	120
30 - 34	100
35 - 39	100
40 - 44	100
45 - 49	100
50 - 54	100
55 - 59	100
60 - 64	100
65 - 69	100
70 - 74	100
75 - 79	100
80 - 84	100
85 - 89	100

In actual fact, the average number of children ever born per women after age group 45 - 49 (i.e. post fertile age groups) should be constant. A technique has been devised by Das Gupta, et.al. which essentially consists of replacing the declining total fertility curve by a horizontal line passing through the peak, which is obtained at the end of the reproductive period. A simple regression equation of the form

$$P_{x+} = a + bx \text{ should be fitted}$$

$X$  = is the mid point of the age group 45 - 49 i.e. 47.5

$P_{x+}$  = is the parity beyond age  $X$

$a = 3.988$ , the parity for age group 45 - 49.

The solution of the regression equation gives

$$P_{x+} = 3.988 - 0.0487x.$$

Adjustment for possible under-reporting at age group 45 - 49 was made by passing the equation through the beginning of the reproductive span, taken at 15 years.

$$P_{47.5} = 3.988 - 0.0487(15 - 47.5) = 5.583$$

The adjusted rates for each age group in the reproductive span could be obtained as:

$$P_x^1 = R_x + 0.0487(X-15)$$

Where:

$P_x^1$  = is the adjusted parity for age group with mid point  $X$ .

$P_x$  = is the unadjusted parity for age group with mid point  $X$ .

### Mortality Estimation

Based on Sullivan's Modification of Brass method of estimating child mortality the probability of a child dying before reaching age two ( $q_2$ ) is estimated as follows:

$$\frac{q_2}{D_2} = 1.30 - 0.54 \frac{P_2}{P_3}$$

$P_2, P_3$  are the parities for women aged 20 - 24 and 25 - 29 respectively.

$D_2$  is the proportion of children dead to women aged 20 - 24.

The values of  $P_2, D_2$  used here are the adjusted figures by the method of

Das Gupta, et.al.

The value of  $q_2$  obtained is 149 per 1,000.

In actual fact, the vector method of finding the best fit curve is more difficult than the method of least squares. The latter method is based on the principle of minimizing the sum of the squares of the residuals. This method is simpler and more direct than the vector method. The vector method is more complicated and requires a deeper understanding of vector algebra.

$$P_{xx} = \sum_{i=1}^n x_i^2 = 10 + 16 + 25 + 36 + 49 = 136$$

$$P_{xy} = \sum_{i=1}^n x_i y_i = 1 \cdot 1 + 2 \cdot 2 + 3 \cdot 3 + 4 \cdot 4 + 5 \cdot 5 = 55$$

$$P_x = \sum_{i=1}^n x_i = 1 + 2 + 3 + 4 + 5 = 15$$

$$P_y = \sum_{i=1}^n y_i = 1 + 4 + 9 + 16 + 25 = 55$$

The solution of the normal equations is given by

$$P_{xx} a + P_{xy} b = P_x P_y$$

Substituting the values of  $P_{xx}$ ,  $P_{xy}$ ,  $P_x$  and  $P_y$  in the above equation, we get

$$136a + 55b = 15 \cdot 55$$

$$136a + 55b = 825$$

The above equation for each of the two groups is given by

$$136a + 55b = 825$$

$a = 1$  is the adjusted value for the group with point 1.  
 $a = 2$  is the adjusted value for the group with point 2.

Statistical Inference

Based on the above data, the following statistical inferences can be drawn. The data shows a clear upward trend, indicating a positive correlation between the variables. The regression line is a good fit for the data.

$$r = \frac{P_{xy}}{\sqrt{P_{xx} P_{yy}}} = \frac{55}{\sqrt{136 \cdot 55}} = 0.98$$

The value of  $r$  is 0.98, which indicates a very strong positive correlation. The regression line is a good fit for the data. The data points are very close to the regression line.

The value of  $r$  is 0.98, which indicates a very strong positive correlation.

## MALE MARITAL STATUS BY AGE GROUP

AGE GROUP	SINGLE		MARRIED		WIDOWED		DIVORCED		N/S		TOTAL	
	NO	%	NO	%	NO	%	NO	%	NO	%	NO	%
10 - 14	2,370	59.8	-	-	-	-	-	-	-	-	2,370	22.8
15 - 19	1,030	26.0	10	0.2	-	-	20	6.7	10	33.3	1,070	10.3
20 - 24	340	8.6	320	5.3	-	-	30	10.0	-	-	690	6.6
25 - 29	150	3.8	720	12.0	-	-	80	26.7	10	33.3	960	9.2
30 - 34	30	0.8	1,030	17.1	-	-	30	10.0	-	-	1,090	10.5
35 - 39	20	0.5	870	14.5	10	11.1	30	10.0	-	-	930	9.0
40 - 44	-	-	980	16.3	10	11.1	20	6.7	-	-	1,010	9.7
45 - 49	10	0.3	670	11.1	10	11.1	30	10.0	10	33.3	730	7.0
50 - 54	10	0.2	570	9.5	20	22.2	30	10.0	-	-	630	6.1
55 - 59	-	-	360	6.0	-	-	10	3.3	-	-	370	3.6
60 - 64	-	-	240	4.0	10	11.1	-	-	-	-	250	2.4
65 - 69	-	-	100	1.7	20	22.2	10	3.3	-	-	130	1.2
70 - 74	-	-	80	1.3	10	11.1	10	3.3	-	-	100	1.0
75 - 79	-	-	40	0.7	-	-	-	-	-	-	40	0.4
80 & above	-	-	-	-	-	-	-	-	-	-	-	-
N/S	-	-	20	0.3	-	-	-	-	-	-	20	0.2
TOTAL	3,960	100.0	6,010	100.0	90	99.9	300	100.0	30	99.9	10,390	100.0



## FEMALE MARITAL STATUS BY AGE GROUP

AGE GROUP	SINGLE		MARRIED		WIDOWED		DIVORCED		N/S		TOTAL	
	NO	%	NO	%	NO	%	NO	%	NO	%	NO	%
10 - 14	3,210	70.5	30	0.5	-	-	40	0.9	-	-	3,280	19.8
15 - 19	1,230	27.0	560	8.9	-	-	490	11.0	-	-	2,280	13.8
20 - 24	60	1.3	910	14.5	20	1.8	740	16.6	-	-	1,730	10.5
25 - 29	30	0.7	1,290	20.6	20	1.8	720	16.1	-	-	2,060	12.5
30 - 34	-	-	1,170	18.7	50	4.5	670	15.0	10	7.1	1,900	11.5
35 - 39	10	0.2	1,070	17.1	160	14.3	570	12.8	-	-	1,810	10.9
40 - 44	-	-	560	8.9	120	10.7	390	8.7	10	7.1	1,080	6.5
45 - 49	-	-	410	6.5	90	8.0	330	7.4	10	7.1	840	5.1
50 - 54	-	-	140	2.2	200	17.9	150	3.3	-	-	490	3.0
55 - 59	-	-	80	1.3	60	5.4	150	3.3	-	-	290	1.8
60 - 64	-	-	10	0.2	50	4.5	70	1.6	90	64.3	220	1.3
65 - 69	-	-	10	0.2	110	9.8	60	1.3	-	-	180	1.1
70 - 74	10	0.2	10	0.2	110	9.8	40	0.9	20	14.3	190	1.1
75 - 79	-	-	-	-	60	5.4	20	0.4	-	-	80	0.4
80 & above	-	-	-	-	70	6.1	10	0.2	-	-	80	0.5
N/S	-	-	20	0.2	-	-	10	0.2	-	-	30	0.2
TOTAL	4,550	99.9	6,270	100.0	1,120	100.0	4,460	99.9	140	99.9	16,540	100.0



## POPULATION BY AGE GROUP AND MOTHER TONGUE

AGE GROUP	M O T H E R   T O N G U E					TOTAL
	AMHARIC	GALIGNA	GURAGNA	TIGRIGNA	OTHER ETH. LANG.	
0 - 4	6,200	20	-	480	80	6,780
5 - 9	6,370	30	-	500	20	6,920
10 - 14	5,190	30	10	420	-	5,650
15 - 19	3,060	20	-	270	-	3,350
20 - 24	2,200	-	-	190	30	2,420
25 - 29	2,790	20	-	160	50	3,020
30 - 34	2,680	40	-	240	30	2,990
35 - 39	2,510	20	-	200	10	2,740
40 - 44	1,960	-	-	130	-	2,090
45 - 49	1,390	30	-	120	30	1,570
50 - 54	1,060	-	10	40	10	1,120
55 - 59	610	20	-	30	-	660
60 - 64	450	-	-	10	10	470
65 - 69	290	-	-	20	-	310
70 - 74	250	-	-	20	20	290
75 - 79	110	10	-	-	-	120
80 & above	80	-	-	-	-	80
N/S	50	-	-	-	-	50
TOTAL	37,250	240	20	2,830	290	40,630



## Economically Active MALE Population by Age and Occupation

OCCUPATION	A G E G R O U P										TOTAL
	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	
Professional, Technical and Related Workers	-	10	50	180	90	70	60	10	60	10	540
Administrative and Managerial Workers	-	-	-	-	-	20	10	10	-	-	40
Clerical and Related Workers	-	-	20	80	80	90	70	50	30	40	460
Sales Workers	-	-	90	150	170	210	250	170	90	40	1,170
Service Workers	-	30	110	160	200	100	160	70	60	20	910
Agriculture, Husbandry and Forestry	50	50	60	60	50	50	90	-	80	30	520
Production and Related Workers	40	40	90	80	130	80	60	60	40	40	660
Transport Equipment Operators	-	10	20	30	30	30	50	20	20	10	220
Labourers	-	20	80	130	190	130	140	130	70	30	920
Workers not Classified by Occupation	-	-	40	40	150	150	90	90	-	10	570
<b>TOTAL</b>	<b>90</b>	<b>160</b>	<b>560</b>	<b>910</b>	<b>1,090</b>	<b>930</b>	<b>980</b>	<b>610</b>	<b>450</b>	<b>230</b>	<b>6,010</b>

## APPENDIX 7

## Economically Active FEMALE Population by Age Group and Occupation

OCCUPATION	A G E G R O U P										TOTAL
	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	
Professional, Technical and Related Workers	-	20	30	20	-	20	10	-	-	-	100
Administrative and Managerial Workers	-	-	20	-	-	-	-	-	-	-	-
Clerical and Related Workers	-	10	20	10	-	-	-	-	-	-	40
Sales Workers	10	-	30	40	160	110	90	60	10	30	540
Service Workers	320	540	190	70	60	70	30	40	-	-	1,320
Agriculture, Husbandry and Forestry	-	10	20	50	-	-	20	-	-	10	110
Production and Related Workers	30	40	200	420	380	420	230	180	200	40	2,140
Transport Equipment Operators	-	-	-	-	-	-	-	-	-	-	-
Labourers	50	20	60	80	50	50	50	40	40	40	480
Workers not Classified by Occupation	-	-	-	-	-	-	-	-	-	-	-
<b>TOTAL</b>	<b>410</b>	<b>640</b>	<b>550</b>	<b>690</b>	<b>650</b>	<b>670</b>	<b>430</b>	<b>320</b>	<b>250</b>	<b>120</b>	<b>4,730</b>



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