Central Statistical Authority (CSA)
Population Analysis And Studies Center (PASC)

Report On
Experimental Sample Vital Registration System
In Rural Ethiopia 1986/87

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CHAPTER I
INTRODUCTION

1.1 Vital Registration

Vital registration (or civil registration) refers to the process by which facts regarding individual civil or vital events are recorded by some governmental agency as official records. Vital events may be defined as live births, deaths, fetal deaths (still births), marriages, divorces, adoptions, ligitimations, recognitions, annulments and separation; in short, all the events which have to do with an individual's entrance into or departure from life, together with the changes in civil status which may occur to him during his life time (IIVRS).

The records produced by the registration process has two broad groups of purposes. First, the individual records establish a person's civil status and the facts on which it is based. Proof of these facts such as age, place of birth or death, parentage, circumstances of death, etc., are essential documents required for many official purposes in the society in which a person lives or lived.

In the second place, the information on the registration records collectively form data for vital statistics which are the computed birth rates, marriage rates, general death rates, infant mortality rates and other indices showing changes in population size and composition, and important features regarding the health of the population.

The registration of vital events has long been recognized universally as an essential government process, and there are laws and regulations in virtually all the countries of the world making the registration of births, deaths, marriages and divorces compulsory. In many countries, the legal requirement for registration date back more than 100 years.

1.2 The Status of Vital Registration in Ethiopia

a) Registration of Vital Events in Some Institutions

The recording of vital events in Ethiopia was originally carried out by the ecclesiastistical authorities of the Ethiopian Orthodox Church and other denominations. The vital events which these authorities registered were baptisms, burials and weddings rather than births, deaths and marriages.

The registers so produced were limited in coverage and quality. The fundamental deficiency stems from the fact that the ecclesiastistical records were designed not to attest to civil or biological facts but to record the payment of a fee for a service. For instance they include the date of the ceremony involved rather than the date of the occurrence of the events in question. The system also excludes those who do not conform to the religious practices of the church and those who ceased to use church rites. Moreover, baptism of the babies take place after 40 and 80 days for male and female babies, respectively and in view of the fact that considerable infant deaths occur within the first few days or month of life, many babies do not live to be baptized.

Municipalities are among some of the institutions that carry out the registration of births, marriages, deaths and divorces. The registration service is provided to interested individuals only and, obviously, few individuals are interested and the registration takes place only when the need arises. Furthermore, the service is rendered upon payment of fees. Although, the data recorded in the registers are pertinent to civil or biological status of the individual concerned, because of the above mentioned factors, coverage is limited and moreover, there is a wide gap between the date of registration and the date on which the birth event took place.

The other institutions involved in the registration of vital events are hospitals and clinics. These institutions keep record of birth and death events which took place in the premises of the institutions. However, not all hospitals and clinics carry out the registration activity and there is no consistency and uniformity of registration in those hospitals and clinics which do the registration of the events. Because of these factors coverage is limited and quality of data is unsatisfactory.

In the light of these defect in the registration practice of the institutions mention above, it could be concluded that the data from these registers can not be used to produce vital statistics information. The vital events registered through such registration activities proved to be absolutely incomplete in coverage and quality and hence, can not be collated statistically.

b) Proclamations For the Establishment of Vital Registration

In recognition of the importance of vital registration and vital statistics for the purpose of development planning, the Ethiopian government issued three proclamation at different periods for the establishment of vital registration in Ethiopia.

i) The "Civil Code of Ethiopia, Proclamation No,165" of 1960 stated that the Ministry of Interior should establish Civil Registration Centers at various administrative levels of the country to record births, deaths and marriages for legal purposes (Ethiopian Government, 1960).

ii) In the "Order and Proclamation No.79 and 303" of 1972, the Central Statistical Authority (CSA) of Ethiopia has been designated to conduct vital registration, i.e., the registration of births, deaths, marriages and divorces in a population and the basic sources of information on its dynamics (Ethiopian Government, 1972).

iii) In the "Urban Dwellers' Associations (UDAs) Consolidation and Municipalities Proclamation No. 104" of 1976 the office of the Association, among other things, have been designated to keep proper register of the number of residents, births, deaths and marriages occurring in the households under their responsibilities. The Ministry of Urban Development and Housing was expected to coordinate the registration activities (Provisional Military Administrative Council of Socialist Ethiopia, 1976).

Despite these proclamations, no attempt has been made towards the establishment of vital registration centers in Ethiopia. However, although, the establishment of national vital registration system would require an independent office, the Central Statistical Authority (CSA), as one of the government's institutions legally intrusted with collecting vital events, initiated an "Experimental Sample Vital Registration Systems" in 1977, 1981/82 and 1986/87.

c) Experimental Sample Vital Registration System (ESVRS)

The Sample Vital Registration System involves collection of data through two different procedures, VIZ. continuous registration of vital events and a household change survey.

In 1977, the CSA initiated an "Experimental Sample Vital Registration System" in some selected Urban Dwellers'Association (UDAs) and Farmers' Association Areas (FAAs). The objective of this initiative was to test whether it would be feasible to carry out civil/vital registration by providing technical and material assistance to the associations. Furthermore, it was designed to learn about some expected fundamental problem that would be involved in the methodological, administrative, legal and financial aspects of the registration activities. The exercise covered 37 UDAs and 4 FAAs. The permanent clerical staffs of the FAAs were made responsible for the continuous registration of the events (birth, death, marriage and divorce) that occur in their respective areas while the CSA carried out the household surveys. The results of these exercises were produced in three reports in which Report No.1 covered the Base Population, Report No.2 and No.3 covered Population dynamics in the Vital Registration Centers. Comparison of the results of the registration and the survey indicated a gross under registration of the events due to various factors.

However, in recognition of the importance of continuous vital registration, the CSA decided to make Experimental Sample Vital Registration System as an integral part of its statistical programs. Accordingly, an Experimental Sample Vital Registration System (ESVRS) was initiated in rural Ethiopia in September 1982 as part of the National Integrated Household Survey Programme (NIHSP). The Experimental Sample Vital Registration System was designed to generate data on birth, death, marriage and divorce events through continuous registration and data on internal migration and the age and sex composition of the population through household survey. Both the registration and the household surveys were carried out by the CSA field staff. The results of these exercises were published in two volumes. Volume I covered the analysis of vital events while Volume II presented the analysis of local moves and internal migration (for more details, refer to CSA, 1990 and 1992). The registration-cum-household survey exercise was carried out for only one year from September 1982 to September 1983 and was disrupted due to shortages of finance, registration personnel and other related

problems.

On the basis of the experience gained from the 1982/83 ESVRS, a new scheme of Experimental Sample Vital Registration System (ESVRS) was launched in rural Ethiopia from September 1986 to September 1987. The ESVRS was also made part of the NIHSP covering the rural population of 12 regions. Both the household survey and continuous registration of the vital events were carried out by the CSA field staff. This report presents the objectives, methods of data collection, coverage and the results obtained from the 1986/87 ESVRS.

1.3 The Objectives of the 1986/87 ESVRS

The objectives of the Experimental Vital Registration System can be identified as a long range and immediate objectives. The long range objectives are to generate reliable vital statistics data for the country's social and economic development planning and population policy implementation; to create an awareness among the general public of the importance of civil/vital registration and vital statistics system and to gain support of governmental and non-governmental organizations for the registration activity and the eventual setting up of vital registration system on a national basis.

The most important immediate objective of the 1986/87 ESVRS is to study changes in population size, age-sex structure and population dynamics as a result of vital events; namely, births, deaths and internal migration. The Experimental Sample Vital Registration System was also planned to provide data on marriage and divorce events, as a result of which nuptiality patterns are studied and internal migration through which the volume of inter and intra-regional migrations, rural to rural, rural to urban and urban to rural migrations, the rates, reasons for migration, seasonality of migrations, streams and the age and sex distribution of the migrants are studied.

1.4 Methods of Data Collection

The 1986/87 ESVRS was essentially a dual recording system in which two methods of data collection were employed. These were: household survey and continuous registration of vital events.

a) Household Survey:

In the 1986/87 Experimental Sample Vital Registration System, two-rounds of household surveys were conducted. The first-round household survey was conducted in September 1986. The purpose of this survey was to obtain the size of the base line population and data on basic socio-demographic characteristics which include sex, age, marital status, ... etc. The questionnaires were administered in Amharic and its English version appears as appendixes A to E. Appendix A presents the household questionnaire which was used to collected the base line information (see Appendix A).

The second round of the household survey was carried out a year later, in September 1987. The purpose of this survey was to gauge changes in the household composition as a result of births, deaths and migration during the one year period. In the second round of the household survey, the original households which were covered in the first round and the new households which were formed in the sample area during the year, after the first round household survey, were revisited.

In the second round of the household survey, information on changes in the household size that had occurred during the year as a result of vital events (births and deaths) and migration were asked. Migration data included place of origin/destination, reason for migration and date of migration. The same household questionnaire which was used to collect the base line information was sent back to the field to record the change that occurred in the household within the year (see Appendix A).

b) Continuous Registration

In the registration approach, vital events, birth, death, marriage and divorce (see Appendices B-E) were continuously captured as soon as they occurred in a household during the period from September 1986 to August 1987. The registration forms which were utilized to register vital events were also used to gather information on socio-demographic characteristics describing the individual to whom the events occurred. As the ESVRS was a dual recording system, events registered through continuous registration were also recorded retrospectively by household survey except for those on marriages and divorces. However, the analysis presented in this report on population dynamics and nuptiality are based on data generated by continuous

registration, except for data on migration and characteristics of risk population, which were collected solely by the household survey.

1.5 Coverage

The 1986/87 ESVRS was based on a probability sample of Farmers' Associations (FAs), which is the lowest administrative tier in rural Ethiopia. Like other surveys under the National Integrated Household Survey Programme (NIHSP) conducted in rural areas, the ESVRS was planned to cover 745 FAs, about 3.9 percent of the total FAs.

Unlike other surveys which only cover sample households within the selected FAs, the ESVRS covered all households in the selected FAs in the rural areas of the country except Tigray and the nomadic areas. There were 18,989 FAs in the twelve administrative regions. These were distributed throughout the 77 Awrajas (sub-regions) of the 12 regions with an average of six Awrajas per region. These 77 Awrajas were the first level strata. Within each stratum, the FAs were used as the primary sampling units (PSUs). The allocation of 745 PSUs to 12 regions took into account the size of the administrative regions with additional restriction of selecting at least 34 PSUs for a given region. This resulted in actual selection of 745 FAs for the study (see, Table 1.1). The Farmers' Associations were selected without replacement with probability proportional to size; size being the number of FAs (for details of the survey design and selection procedures of the sample see CSO 1983).

As could be seen from Table 1.1, the 1986/87 ESVRS was finally successful in covering 670 FAs instead of the 745 FAs as was originally designed. And all the households in the selected FAs (670) were covered by ESVRS. This has resulted in the ultimate coverage of 451,088 households. The distribution of households actually covered by ESVRS in each of the regions is given in Table 1.1.

The results presented in this report are obtained by applying weights to the sample cases so as to establish the required estimates at regional level. The weights are developed by taking into account the probability of the selection of sample units. The weight adjustment is done independently for each of the Stratum (i.e., Awraja) at Farmers' Association level.

Table 1.1 Number of Selected and Actually Covered Farmers' Associations and Households By Region, Rural, 1986/87

Region	Farmers' Association (FAs)			households Actually Covered	Percent Share of each Region
	Selected	Actually Covered	Percent Covered		
Arssi	60	57	95	80,364	17.7
Bale	34	34	100	16,354	3.6
Gamo Goffa	34	33	97	14,927	3.3
Gojjam	139	127	91	67,032	14.8
Gondar	36	34	94	25,771	5.7
Hararge	35	35	100	16,695	4.1
Illubabor	33	33	100	9,552	2.1
Keffa	35	34	97	12,530	2.8
Shewa	220	175	80	106,148	23.4
Sidamo	35	35	100	68,321	15.1
Wellega	47	44	94	14,350	3.2
Wollo	37	29	78	19,044	4.2
Total	745	670	90	451,088	100.0

1.6 Registration Method

Every effort was made to register the incidence of vital events (births, deaths, marriages and divorces) as soon as they occur. To this effect, two approaches (passive and active) were employed. In the passive approach, events were reported as soon as they occur by individuals who are connected or related to the event. In this respect, information referring to births were reported either by parents, relatives or non-relatives of the infants; while deaths were reported either by spouses (if the deceased was married), parents, relatives or non-relatives of the deceased. The information on marriages/divorces were reported by the persons marrying/divorcing.

In the active approach, events were recorded by the enumerator by going from house to house in the FA every 15 days.

This was a difficult attempt, given the fact that the enumerator had various other major pre-occupations. The enumerator was responsible for carrying out other surveys which were conducted simultaneously in the same year by the office.

The reporting of vital events was totally voluntary. Therefore, it is pertinent to point out here that the number of births, deaths, marriages and divorces registered may not be complete in view of the fact that these were obtained primarily on the basis of voluntary reporting. Given the fact that, the rural society is predominantly illiterate coupled with lack of legislation that compels people to report events as they occur, ..., etc. there may be quite a significant number of events left out unreported.

Information on birth registration included sex of infant, date of birth (in day, month and year) and attendant at delivery. Similarly, death registration contained information on sex, age at death, date of death, cause of death, and type of treatment received before death.

Information on marriage covered sex, age at marriage, religion, ethnic group, educational status, previous marital status, order of marriage of the bride and bridegroom and dates of marriage and registration (in day, month and year). Data on divorce event included sex, age at divorce, religion, ethnicity, educational status, number of times married, reason for divorce, number of dependent children (children below the age of 18) of the divorcees, dates of divorce and registration (in day, month and year).

1.7 Organization of the Report

This report is organized into seven chapters. Chapter I introduces the status of civil/vital registration in Ethiopia, the objective of ESVRS, methods of data collection, sampling and registration and organization of the report. Chapter II presents the size, age-sex distribution and dependency ratio of the population at risk. Chapter III presents the number of annual births and discusses levels, patterns and regional differentials in fertility. Chapter IV presents the annual number of deaths and the derived measures of death together with causes and seasonality of deaths. Chapter V presents the number of annual marriages and divorces together with the current marital status of the population at risk. It also includes detailed analysis

on nuptiality (marital status, marriage and divorce incidence) in which levels, patterns and regional and sex differentials are studied. Chapter VI describes the volume, rate, age and sex structure of internal migrants. It further attempts to present the reasons, seasons and streams of intra and inter-regional migrants. Finally, Chapter VII summarizes the major findings and recommends appropriate actions to be taken in the future course of registration activities.

1.8 A Note on the Calendar

The Ethiopian Calendar year has 12 months which have 30 days each and one short month which has 5 days for 3 consecutive years and 6 days on the forth year. The Ethiopian Calendar months and the corresponding Gregorian Calendar months are given below.

Table 1.2 Ethiopian and The Corresponding Gregorian Months

Ethiopian	**Gregorian**
Meskerm	September
Tikimt	October
Hidar	November
Tahsas	December
Tir	January
Yekatit	February
Megabit	March
Miazia	April
Ginbot	May
Sene	June
Hamle	July
Nehasie	August

CHAPTER II

AGE-SEX COMPOSITION OF THE POPULATION

In this chapter, the age - sex-composition and dependency ratio of the population are analyzed. The population includes all the individuals who must have been exposed to the risk of the events (marriage, divorce, birth, death and migration) in question. The age composition of the population is represented by the estimate of the age composition of the average population. The average population is the arithmetic mean of the population obtained during the first and second round surveys. It should be noted that hereafter population refers to the average population obtained from the first and second round household survey. It is assumed here that the population is not subject to considerable seasonal fluctuations and the average population is a sufficient approximation as a denominator for the computation of annual rates of birth, death, marriage and divorce.

2.1 Size of The Population

In 1986/87 the total rural estimated sedentary population of the 12 regions turned out to be 30,676,480, of which 15,394,412 (50.2%) were males and the remaining 15,282,068 (49.8%) were females. The data suggests that there is about 0.2 percentage point excess of males over females. The projected rural population of the 12 Regions for the year 1986 was 35,386,600. The observed discrepancy between the population figures obtained by the 1986/87 ESVRS and the projection is attributed due to the fact that the 1986/87 ESVRS has not covered all the nomadic areas in these regions and those areas that had security problems in some of the northern parts of Wollo, Gondar,...,etc.

There is a wide variation in the distribution of the population among the regions (See Table 2.1). Of the total 30,676,480 population, about 24 percent were in Shewa, 13 percent were in Sidamo, 11 percent were in Gojjam. The lowest percentage of the population were observed in Bale (about 2 percent). In the remaining regions, the percentage distributions of the population range between 3 percent in Illubabor to 9 percent in Hararge.

Table 2.1 Numerical and Percentage Distribution of Population by Sex and Region, Rural Ethiopia, 1986/87

Region	Male		Female		Total	
	Number	%	Number	%	Number	%
Arssi	972542	6.3	845647	5.5	1818189	5.9
Bale	330802	2.2	350286	2.3	681088	2.2
Gamo Goffa	576823	3.8	585098	3.8	1161921	3.8
Gojjam	1669872	10.9	1650641	10.8	3320513	10.8
Gondar	980537	6.4	937157	6.1	1917694	6.3
Hararge	1355839	8.8	1312863	8.6	2668702	8.7
Illubabor	493346	3.2	494539	3.2	987885	3.2
Keffa	971493	6.3	1021361	6.6	1983854	6.5
Shewa	3615972	23.5	3666562	24.9	7282534	23.7
Sidamo	1977548	12.8	1902664	12.6	3880212	12.7
Wellega	1259063	8.2	1295329	8.5	2554392	8.3
Wollo	1190575	7.7	1228921	8.0	2419496	7.9
Total	15394412	100	15282068	100	30676480	100

2.2 Age Composition of The Population

Age is an important demographic variable. Much of the demographic information in use is expressed in terms of the age at which an event happens. The age composition of a population has direct implications for the demographic behaviour of a population; it affects the incidence of birth, death, marriage, divorce and migration. It can also be affected by the past trends in reproduction, mortality and population movement. The age composition of a population is also a very important input used for social, economic and overall development planning.

In view of the importance of age in demographic analysis, this section deals with the age composition of the rural population of the regions under consideration. Tables 2.2 - 2.14 give the numerical and percentage distribution of the population by age and sex for the rural areas of the 12 regions combined and for each region separately.

Table 2.2 Numerical and Percentage Distribution of Population by Age and Sex, 12 Regions, Rural Ethiopia, 1986/87

Age Group	Male		Female		Both Sexes	
	Number	%	Number	%	Number	%
0-4	2,712,959	17.62	2,548,807	16.68	5,261,766	17.15
5-9	2,810,495	18.26	2,729,058	17.86	5,539,553	18.06
10-14	2,142,680	13.92	1,881,287	12.31	4,023,867	13.12
15-19	1,533,867	9.96	1,369,496	8.96	2,903,363	9.46
20-24	831,378	5.40	978,618	6.40	1,809,996	5.90
25-29	849,343	5.52	1,131,839	7.41	1,981,182	6.46
30-34	716,007	4.65	945,571	6.19	1,661,578	5.42
35-39	794,186	5.16	864,213	5.65	1,658,399	5.41
40-44	614,216	3.99	691,042	4.52	1,305,258	4.25
45-49	531,533	3.45	479,877	3.14	1,011,410	3.30
50-54	439,953	2.86	484,050	3.17	924,003	3.01
55-59	348,652	2.26	295,411	1.93	644,063	2.10
60-64	344,800	2.24	336,242	2.20	681,042	2.22
65-69	247,338	1.61	175,083	1.14	422,421	1.38
70-74	198,721	1.29	175,887	1.15	347,608	1.22
75-79	113,297	0.74	69,748	0.46	183,045	0.60
80-84	89,167	0.58	74,710	0.49	163,877	0.53
85+	64,961	0.42	39,557	0.26	104,518	0.34
N/S	10,859	0.07	11,572	0.08	22,431	0.07
Total	15,394,412	100.0	15,282,068	100.0	30,676,480	100.0

Table 2.3 Numerical and Percentage Distribution of Population by Age and Sex, Rural Arssi, 1986/87

Age Group	Male		Female		Both Sexes	
	Number	%	Number	%	Number	%
0-4	243,876	25.08	164,388	19.44	408,264	22.5
5-9	172,466	17.73	170,470	20.16	342,936	18.9
10-14	126,199	12.98	103,562	12.25	229,761	12.6
15-19	114,778	11.80	67,792	8.02	182,570	10.1
20-24	43,470	4.47	41,300	4.88	84,770	4.7
25-29	39,635	4.08	55,131	6.52	94,766	5.2
30-34	35,470	3.65	50,744	6.00	86,214	4.8
35-39	41,022	4.22	48,566	5.74	89,588	4.9
40-44	29,603	3.04	33,936	4.01	63,539	3.5
45-49	27,831	2.86	26,041	3.08	53,872	3.0
50-54	19,686	2.02	22,713	2.89	42,399	2.3
55-59	18,485	1.90	15,001	1.77	33,486	1.8
60-64	17,794	1.83	16,415	1.94	34,209	1.9
65-69	14,958	1.54	8,719	1.03	23,677	1.3
70-74	10,915	1.12	10,090	1.19	21,005	1.2
75-79	6,978	0.72	3,887	0.46	10,865	0.6
80-84	5,228	0.54	4,120	0.49	9,348	0.5
85+	3,717	0.38	2,164	0.26	5,881	0.3
N/S	431	0.04	608	0.07	1,039	0.1
Total	972,542	100.0	845,647	100.0	1,818,189	100.0

Table 2.4 Numerical and Percentage Distribution of Population by Age and Sex, Rural Bale,1986/87

Age Group	Male		Female		Both Sexes	
	Number	%	Number	%	Number	%
0-4	68,717	20.77	69,331	19.79	138,048	20.27
5-9	68,008	20.55	68,731	19.62	136,739	20.08
10-14	48,320	14.61	41,870	11.95	90,190	13.24
15-19	24,002	7.26	22,199	6.34	46,201	6.78
20-24	12,442	3.76	16,546	4.72	28,988	4.26
25-29	13,362	4.04	22,848	6.52	36,210	5.32
30-34	12,689	3.84	19,582	5.59	32,271	4.74
35-39	15,707	4.75	21,667	6.19	37,374	5.49
40-44	12,217	3.69	17,272	4.93	29,489	4.33
45-49	12,028	3.64	11,493	3.28	23,521	3.45
50-54	9,252	2.80	10,539	3.01	19,791	2.90
55-59	7,594	2.30	6,096	1.74	13,690	2.01
60-64	7,578	2.29	8,006	2.29	15,584	2.29
65-69	5,501	1.66	3,660	1.04	9,161	1.34
70-74	5,407	1.63	5,068	1.45	10,475	1.54
75-79	3,027	0.91	1,920	0.55	4,947	0.73
80-84	2,556	0.77	1,964	0.56	4,520	0.66
85+	2,242	0.68	1,405	0.40	3,647	0.53
N/S	153	0.05	89	0.03	242	0.04
Total	330,802	100.0	350,286	100.0	681,088	100.0

Table 2.5 Numerical and Percentage Distribution of Population by Age and Sex, Rural Gamo Goffa, 1986/87

Age Group	Male		Female		Both Sexes	
	Number	%	Number	%	Number	%
0-4	101,528	17.60	107,176	18.32	208,704	17.96
5-9	101,099	17.53	93,852	16.04	194,951	16.78
10-14	77,984	13.52	70,298	12.02	148,282	12.76
15-19	57,043	9.89	50,029	8.55	107,072	9.21
20-24	32,149	5.58	43,421	7.42	75,570	6.50
25-29	38,716	6.71	52,105	8.91	90,821	7.82
30-34	30,812	5.34	39,482	6.75	70,294	6.05
35-39	34,219	5.93	36,967	6.32	71,186	6.13
40-44	24,917	4.32	25,690	4.39	50,607	4.36
45-49	20,126	3.49	17,517	2.99	37,643	3.24
50-54	15,164	2.63	14,355	2.45	29,519	2.54
55-59	10,667	1.85	9,189	1.57	19,856	1.71
60-64	10,038	1.74	9,023	1.54	19,061	1.64
65-69	7,398	1.28	5,838	1.00	13,236	1.14
70-74	5,840	1.01	4,233	0.72	10,073	0.87
75-79	3,906	0.68	2,274	0.39	6,180	0.53
80-84	2,764	0.48	1,887	0.32	4,651	0.40
85+	2,171	0.38	1,531	0.26	3,702	0.32
N/S	282	0.05	231	0.04	513	0.04
Total	576,823	100.0	585,098	100.0	1,161,921	100.0

Table 2.6 Numerical and Percentage Distribution of Population by Age and Sex, Rural Gojjam,1986/87

Age Group	Male		Female		Both Sexes	
	Number	%	Number	%	Number	%
0-4	299,231	17.92	296,620	17.97	595,851	17.94
5-9	304,113	18.21	292,390	17.71	596,503	17.96
10-14	215,328	12.89	176,078	10.67	391,406	11.79
15-19	151,987	9.10	173,538	10.51	325,525	9.80
20-24	106,674	6.39	130,625	7.91	237,299	7.15
25-29	118,514	7.10	127,798	7.74	246,312	7.42
30-34	83,377	4.99	93,790	5.68	177,167	5.34
35-39	86,289	5.17	82,705	5.01	168,994	5.09
40-44	61,834	3.70	66,673	4.04	128,507	3.87
45-49	56,883	3.41	51,239	3.11	108,122	3.26
50-54	50,522	3.03	52,686	3.19	103,208	3.11
55-59	40,243	2.41	28,800	1.75	69,043	2.08
60-64	33,196	1.99	30,926	1.87	64,122	1.93
65-69	24,430	1.46	16,034	0.97	40,464	1.22
70-74	17,043	1.02	15,539	0.94	32,582	0.98
75-79	8,988	0.54	6,347	0.39	15,335	0.46
80-84	6,259	0.37	5,110	0.31	11,369	0.34
85+	4,310	0.26	2,793	0.17	7,103	0.21
N/S	651	0.04	950	0.06	1,601	0.05
Total	1,669,872	100.0	1,650,641	100.0	3,320,513	100.0

Table 2.7 Numerical and Percentage Distribution of Population by Age and Sex, Rural Gondar, 86/87

Age Group	Male		Female		Both Sexes	
	Number	%	Number	%	Number	%
0-4	172,643	17.61	167,458	17.87	340,101	17.73
5-9	170,764	17.41	163,191	17.41	333,955	17.41
10-14	134,203	13.69	119,792	12.78	253,995	13.24
15-19	96,682	9.86	99,491	10.62	196,173	10.23
20-24	60,923	6.21	65,433	6.98	126,356	6.59
25-29	57,422	5.86	63,518	6.78	120,940	6.31
30-34	48,116	4.91	56,544	6.03	104,660	5.46
35-39	46,953	4.79	43,362	4.63	90,315	4.71
40-44	38,906	3.97	40,114	4.28	79,020	4.12
45-49	37,202	3.79	26,390	2.82	63,592	3.32
50-54	30,739	3.13	30,018	3.20	60,757	3.17
55-59	24,608	2.51	16,874	1.80	41,482	2.16
60-64	21,093	2.15	17,418	1.86	38,511	2.01
65-69	16,055	1.64	9,964	1.06	26,019	1.36
70-74	10,304	1.05	8,966	0.96	19,270	1.00
75-79	6,621	0.68	4,033	0.43	10,654	0.56
80-84	4,082	0.42	2,763	0.29	6,845	0.36
85+	2,887	0.29	1,545	0.17	4,432	0.23
N/S	334	0.03	283	0.03	617	0.03
Total	980,537	100.0	937,157	100.0	1,917,694	100.0

Table 2.8 Numerical and Percentage Distribution of Population by Age and Sex, Rural Hararge,1986/87

Age	Male		Female		Both Sexes	
Group	Number	%	Number	%	Number	%
0-4	246,904	18.21	232,515	17.71	479,419	17.97
5-9	245,122	18.08	230,720	17.57	475,842	17.83
10-14	197,166	14.54	174,761	13.31	371,927	13.94
15-19	134,691	9.93	112,514	8.57	247,205	9.26
20-24	70,500	5.20	89,810	6.84	160,310	6.01
25-29	75,359	5.56	107,993	8.23	183,352	6.87
30-34	76,999	5.68	88,137	6.71	165,136	6.19
35-39	78,032	5.76	69,271	5.28	147,303	5.52
40-44	63,262	4.67	54,525	4.15	117,787	4.41
45-49	43,022	3.17	35,556	2.71	78,578	2.94
50-54	35,657	2.63	38,786	2.95	74,443	2.79
55-59	20,983	1.55	20,649	1.57	41,632	1.56
60-64	28,136	2.08	26,619	2.03	54,755	2.05
65-69	12,911	0.95	10,190	0.78	23,101	0.87
70-74	13,323	0.98	10,803	0.82	24,126	0.90
75-79	5,168	0.38	3,106	0.24	8,274	0.31
80-84	4,683	0.34	4,345	0.33	9,028	0.34
85+	3,490	0.26	2,361	0.18	5,851	0.22
N/S	431	0.03	202	0.02	633	0.02
Total	1,355,839	100.0	1,312,863	100.0	2,668,702	100.0

Table 2.9 Numerical and Percentage Distribution of Population by Age and Sex, Rural Illubabor, 1986/87

Age Group	Male		Female		Both Sexes	
	Number	%	Number	%	Number	%
0-4	79,051	16.02	74,553	15.08	153,604	15.55
5-9	86,983	17.63	86,792	17.55	173,775	17.59
10-14	62,017	12.57	54,903	11.10	116,920	11.84
15-19	47,129	9.55	37,338	7.55	84,467	8.55
20-24	29,666	6.01	29,985	6.06	59,651	6.04
25-29	28,032	5.68	37,582	7.60	65,614	6.64
30-34	23,090	4.68	31,973	6.46	55,063	5.57
35-39	24,462	4.96	28,436	5.75	52,898	5.35
40-44	21,483	4.36	24,222	4.90	45,705	4.63
45-49	18,292	3.71	18,069	3.65	36,361	3.68
50-54	15,219	3.09	17,301	3.50	32,520	3.29
55-59	13,019	2.64	10,895	2.20	23,914	2.42
60-64	14,340	2.91	15,630	3.16	29,970	3.03
65-69	9,881	2.00	6,419	1.30	16,300	1.65
70-74	7,292	1.48	7,924	1.60	15,216	1.54
75-79	4,279	0.87	3,212	0.65	7,491	0.76
80-84	5,341	1.08	5,790	1.17	11,131	1.13
85+	3,566	0.72	3,440	0.70	7,006	0.71
N/S	204	0.04	75	0.02	279	0.03
Total	493,346	100.0	494,539	100.0	987,885	100.0

Table 2.10 Numerical and Percentage Distribution of Population by Age and Sex, Rural Keffa,1986/87

Age Group	Male		Female		Both Sexes	
	Number	%	Number	%	Number	%
0-4	166,495	17.14	168,485	16.64	334,980	16.88
5-9	188,424	19.39	181,981	17.98	370,405	18.67
10-14	129,198	13.30	109,686	10.83	238,884	12.04
15-19	85,071	8.76	70,382	6.95	155,453	7.84
20-24	46,738	4.81	59,506	5.88	106,244	5.35
25-29	54,730	5.63	85,579	8.45	140,309	7.07
30-34	48,692	5.01	71,498	7.06	120,190	6.06
35-39	56,041	5.77	67,560	6.67	123,601	6.23
40-44	45,771	4.71	53,953	5.33	99,724	5.03
45-49	37,486	3.86	32,570	3.22	70,056	3.53
50-54	28,161	2.90	34,456	3.40	62,617	3.16
55-59	17,193	1.77	17,892	1.77	35,085	1.77
60-64	22,296	2.29	23,482	2.32	45,778	2.31
65-69	11,909	1.23	10,527	1.04	22,436	1.13
70-74	12,335	1.27	10,299	1.02	22,634	1.14
75-79	6,443	0.66	4,912	0.48	11,355	0.57
80-84	7,835	0.81	6,230	0.62	14,065	0.71
85+	5,919	0.61	2,801	0.28	8,720	0.44
N/S	756	0.08	562	0.06	1,318	0.07
Total	971,493	100.0	1,012,361	100.0	1,983,854	100.0

Table 2.11 Numerical and Percentage Distribution of Population by Age and Sex, Rural Shewa,1986/87

Age Group	Male		Female		Both Sexes	
	Number	%	Number	%	Number	%
0-4	596,829	16.51	582,895	15.90	1,179,724	16.20
5-9	676,181	18.70	668,531	18.23	1,344,712	18.47
10-14	516,898	14.29	466,262	12.72	983,160	13.50
15-19	354,795	9.81	325,581	8.88	680,376	9.34
20-24	194,966	5.39	223,117	6.09	418,083	5.74
25-29	177,078	4.90	252,653	6.89	429,731	5.90
30-34	165,080	4.56	225,531	6.15	390,611	5.36
35-39	192,994	5.34	213,055	5.81	406,049	5.58
40-44	151,375	4.19	167,854	4.58	319,229	4.38
45-49	125,601	3.47	112,548	3.07	238,149	3.27
50-54	107,664	2.98	121,100	3.30	228,764	3.14
55-59	85,947	2.38	76,147	2.08	162,094	2.23
60-64	83,197	2.30	84,818	2.31	168,015	2.31
65-69	61,418	1.70	45,259	1.23	106,677	1.46
70-74	52,330	1.45	49,314	1.35	101,644	1.40
75-79	30,487	0.84	19,211	0.52	49,698	0.68
80-84	23,403	0.65	18,739	0.51	42,142	0.58
85+	14,215	0.39	8,386	0.23	22,601	0.31
N/S	5,514	0.15	5,561	0.15	11,075	0.15
Total	3,615,972	100.0	3,666,562	100.0	7,282,534	100.0

Table 2.12 Numerical and Percentage Distribution of Population by Age and Sex, Rural Sidamo,1986/87

Age Group	Male		Female		Both Sexes	
	Number	%	Number	%	Number	%
0-4	370,354	18.73	320,324	16.84	690,678	17.80
5-9	371,517	18.79	356,053	18.71	727,570	18.75
10-14	287,720	14.55	246,296	12.94	534,016	13.76
15-19	222,698	11.26	173,159	9.10	395,857	10.20
20-24	100,825	5.10	132,253	6.95	233,078	6.01
25-29	114,133	5.77	158,380	8.32	272,513	7.02
30-34	83,724	4.23	118,663	6.24	202,387	5.22
35-39	96,782	4.89	114,616	6.02	211,398	5.45
40-44	69,279	3.50	83,453	4.39	152,732	3.94
45-49	58,610	2.96	56,792	2.99	115,402	2.97
50-54	46,821	2.37	43,836	2.30	90,657	2.34
55-59	36,181	1.83	28,806	1.51	64,987	1.67
60-64	38,852	1.97	27,114	1.43	65,966	1.70
65-69	27,097	1.37	16,912	0.89	44,009	1.13
70-74	22,491	1.14	11,940	0.63	34,431	0.89
75-79	13,205	0.67	5,018	0.26	18,223	0.47
80-84	8,911	0.45	4,463	0.24	13,374	0.34
85+	7,355	0.37	2,621	0.14	9,976	0.26
N/S	993	0.05	1,965	0.10	2,958	0.08
Total	1,977,548	100.0	1,902,664	100.0	3,880,212	100.0

Table 2.13 Numerical and Percentage Distribution of Population by Age and Sex, Rural Wellega,1986/87

Age	Male		Female		Both Sexes	
Group	Number	%	Number	%	Number	%
0-4	207,075	16.45	206,329	15.93	413,404	16.18
5-9	227,525	18.07	218,029	16.83	445,554	17.44
10-14	184,279	14.64	173,407	13.39	357,686	14.00
15-19	128,803	10.23	139,502	10.77	268,305	10.50
20-24	69,668	5.53	78,907	6.09	148,575	5.82
25-29	64,191	5.10	87,397	6.75	151,588	5.93
30-34	57,677	4.58	73,598	5.68	131,27	5.14
35-39	63,006	5.00	66,991	5.17	129,997	5.09
40-44	45,264	3.59	51,973	4.01	97,237	3.81
45-49	43,700	3.47	39,843	3.08	83,543	3.27
50-54	36,214	2.88	39,367	3.04	75,581	2.96
55-59	30,754	2.44	27,579	2.13	58,333	2.28
60-64	29,967	2.38	33,092	2.56	63,059	2.47
65-69	22,932	1.82	18,578	1.43	41,510	1.63
70-74	17,338	1.38	17,128	1.32	34,466	1.35
75-79	11,572	0.92	6,649	0.51	18,221	0.71
80-84	9,406	0.75	9,809	0.76	19,215	0.75
85+	9,323	0.74	6,885	0.53	16,208	0.64
N/S	369	0.03	266	0.02	635	0.03
Total	1,259,063	100.0	1,295,329	100.0	2,554,392	100.0

Table 2.14 Numerical and Percentage Distribution of Population by Age and Sex, Rural Wollo, 1986/87

Age Group	Male		Female		Both Sexes	
	Number	%	Number	%	Number	%
0-4	160,256	13.46	158,733	12.92	318,989	13.18
5-9	198,293	16.66	198,318	16.14	396,611	16,39
10-14	163,368	13.72	144,372	11.75	307,740	12.72
15-19	116,188	9.76	97,971	7.97	214,159	8.85
20-24	63,357	5.32	67,715	5.51	131,072	5.42
25-29	68,171	5.73	80,855	6,58	149,026	6.16
30-34	50,281	4.22	76,029	6.19	126,310	5.22
35-39	58,679	4.93	71,017	5.78	129,696	5.36
40-44	50,305	4.23	71,377	5.81	121,682	5.03
45-49	50,752	4.26	51,819	4.22	102,571	4.24
50-54	44,854	3.77	58,893	4.79	103,747	4.29
55-59	42,978	3.61	37,483	3.05	80,461	3.33
60-64	38,313	3.22	43,699	3.55	82,012	3.39
65-69	32,848	2.76	22,983	1.87	55,831	2.31
70-74	24,103	2.02	24,583	2.00	48,686	2.01
75-79	12,623	1.06	9,179	0.75	21,802	0.90
80-84	8,699	0.73	9,490	0.77	18,189	0.75
85+	5,766	0.48	3,625	0.29	9,391	0.39
N/S	741	0.06	780	0.06	1,521	0.06
Total	1,190,575	100.0	1,228,921	100.0	2,419,496	100.0

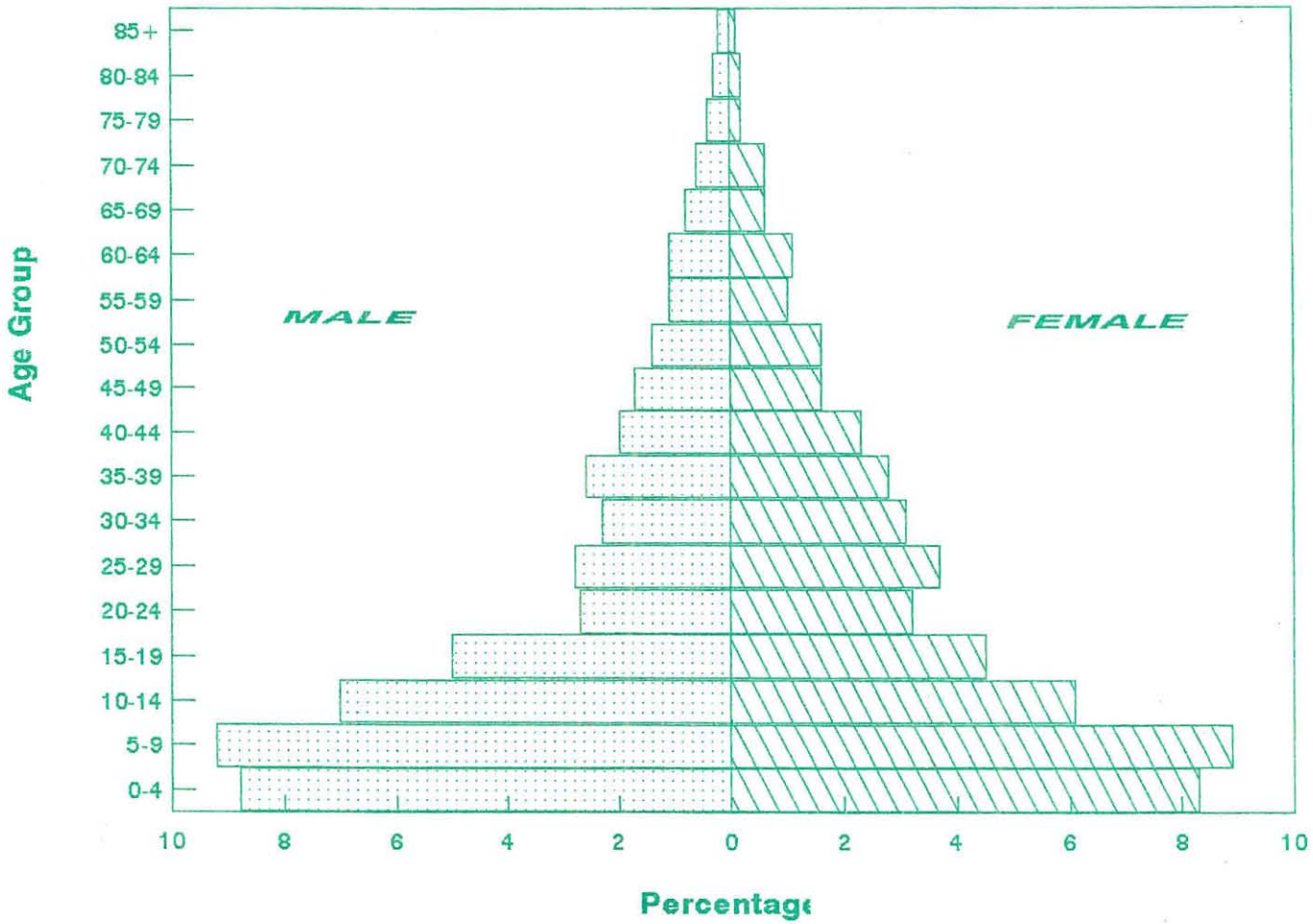
Examining the age structure from the youngest to the oldest, one finds that the feature of the age structure which is immediately apparent upon inspection is that it is distorted (see Table 2.2). In a population that is not affected by migration or remarkable changes in fertility or mortality rates, the age distribution of the population is generally observed to be smooth. That is, it begins with a higher proportion in the first age group (0-4) of each sex then the proportion gradually declines in subsequent age groups until the final age group where the proportion becomes very small. Within the sexes, males predominate in the first few quinquennial age groups and then fall below the numbers of females, the difference gradually widening at advanced ages. However, due to misreporting of age, age data of the present study does not follow the general pattern of age distribution.

The erroneous nature of the age data can be seen from Table 2.2 which provides the age data grouped into five year intervals for the 12 regions. In the five year age group data, the proportions, in general, decrease as age advances. However, there are some fluctuations observed both among male and female age data. These fluctuations could be due to age mis-reporting or it could be genuine feature of the age-distribution or could be due to adult migration to urban areas. For instance, among males, the population aged 5-9, 25-29, 35-39 years are higher than the population aged 0-4, 20-24 and 30-34 years, respectively. Similar pattern is observed among females in age groups 5-9, 25-29, 50-54, 60-64, 70-74, 80-84 years.

These irregularities also hold in the distribution of the population by age for various regions (see Tables 2.3-2.14). Comparison of the age data of males and females reveal that the irregularities in the male age data tend to be small, thus implying that age is relatively better reported by males than females. This was also found to be consistent with the results of the 1984 Population and Housing Census age data (see CSA, 1991).

The pyramid for the age-sex distribution of the total population is given in Figure 2.1. The pyramid has a broad base tapering rapidly towards the older age groups. It is typical of a population in an early stage of demographic change with high birth rates and declining child death rates and a youthful age structure. The dominance of females over males, particularly, in the younger working ages (20-24) years and the large

Figure 2.1 Age Pyramid of the Population, 12 Regions, Rural Ethiopia, 1986/87



proportion of male population in the age groups 0-19 years are clearly depicted by the pyramid. The relatively small proportion of the aged population are also clearly revealed by the pyramid. Finally, the pyramid also shows, the deviation of the age structure from the normal pattern in age groups 5-9 years for both sexes, 30-34 years for males and 20-24 and 60-64 years for females.

Despite its limitations, age data have proved useful in describing and distinguishing population as youth, working and old. From these distinct groups of the population additional characteristics such as dependents can be derived . A young population contains relatively large proportion of children (persons under 15 years of age). On the other hand, an old population tends to have a relatively large proportion of its members aged 65 years and over. To be specific, a population with 10 percent or more of 65 years old and over may be said to be old and those with under 5 percent may be said to be young (or 30 percent under 15 years is old and 40 percent and more under 15 years are said to be young).

In rural Ethiopia, as indicated by Table 2.15, 48.3 percent of the total population is under the age of 15 years . This figure is higher for males (49.8 percent) than for females (46.8 percent). In accordance with the above definition of the population as young, and old, the rural population is characterized as youthful. The population in the working age (15-64 years) and older age groups (65 years and over) accounted for 47.5 and 4.1 percent of the total population, respectively. Among males, 45.5 percent are in the working age group and the corresponding figure for females is 49.6 percent. On the other hand, 4.6 percent of the total male population are old (65 years and over) while only 3.5 percent of the total female population are old.

At regional level, about 54 percent, which is relatively the highest percentage, of the total population of Arssi and Bale regions are under the age of 15 years. The lowest percentage of the under 15 years of age is observed in Wollo region (42.3 percent). In the rest of the regions, the percentages of the

Table 2.15 Percentage Distribution of the Population by Broad Age group, Sex and Region, Rural Ethiopia, 1986/87

Region	Sex	Age Group					
		0-14	15-64	65+	N/S	Total	
Arssi	M	55.8	39.9	4.2	0.1	100	972,542
	F	51.8	44.6	3.5	0.1	100	845,647
	T	53.9	42.1	3.9	0.1	100	1,818,189
Bale	M	55.9	38.4	5.6	0.1	100	330,802
	F	51.4	44.6	4.0	0.0	100	350,286
	T	53.6	41.6	4.8	0.0	100	681,088
Gamo Goffa	M	48.6	47.4	3.9	0.1	100	576,823
	F	46.4	50.9	2.7	0.0	100	585,098
	T	47.5	49.2	3.3	0.0	100	1,161,92
Gojjam	M	49.0	47.3	3.6	0.1	100	1,669,872
	F	46.4	50.8	2.7	0.1	100	1,650,641
	T	47.7	49.0	3.2	0.1	100	3,320,513
Gondar	M	48.7	47.2	4.1	0.0	100	980,537
	F	48.1	49.0	2.9	0.0	100	937,157
	T	48.4	48.1	3.5	0.0	100	1,917,694
Hararge	M	50.8	46.3	2.9	0.0	100	1,355,839
	F	48.6	49.0	2.3	0.0	100	1,312,863
	T	49.7	47.7	2.6	0.0	100	2,668,702
Illubabor	M	46.2	47.6	6.2	0.0	100	493,346
	F	43.7	50.9	5.4	0.0	100	494,539
	T	45.0	49.2	5.8	0.0	100	987,885
Keffa	M	49.8	45.5	4.6	0.0	100	971,493
	F	45.4	51.0	3.5	0.1	100	1,012,361
	T	47.6	48.3	4.0	0.1	100	1,983,854
Shewa	M	49.5	45.3	5.0	0.2	100	3,615,972
	F	46.7	49.1	4.0	0.2	100	3,666,562
	T	48.2	47.2	4.4	0.2	100	7,282,534
Sidamo	M	52.1	43.9	4.0	0.1	100	1,977,548
	F	48.5	49.2	2.2	0.1	100	1,902,664
	T	50.3	46.5	3.1	0.1	100	3,880,212

Table 2.15 Contd.

Region	Sex	Age Group					
		0-14	15-64	65+	N/S	Total	
Wellega	M	49.2	45.1	5.6	0.0	100	1,259,063
	F	46.2	49.3	4.5	0.0	100	1,295,329
	T	47.6	47.3	5.1	0.0	100	2,554,392
Wollo	M	43.8	49.0	7.1	0.1	100	1,190,575
	F	40.8	53.4	5.7	0.1	100	1,228,921
	T	42.3	51.3	6.3	0.1	100	2,419,496
Total	M	49.8	45.5	4.6	0.1	100	15,394,412
	F	46.8	49.6	3.5	0.1	100	15,282,068
	T	48.3	47.5	4.1	0.1	100	30,676,480

under 15 years of age range between 45 percent (Illubabor) and about 50 percent (Sidamo). Likewise, the population in working age group is observed to be low in Bale and Arssi (about 42 percent) and highest in Wollo (about 51 percent) followed by Gamo Goffa, Gojjam and Illubabor (about 49 percent in each region). Similarly, population aged 65 years and over formed relatively large percentages in Wollo region (6.3 percent) followed by Illubabor (5.8 percent) and Wellega (5.1 percent) and this population group has the lowest proportion in Hararge region, i.e. 2.6 percent of the total rural population of the region.

2.3 Sex composition of The Population

Sex composition of the population is another basic information that indicates the demographic characteristics of the population. It has a direct implication for the demographic behaviour of a population; it affects the incidence of birth, death, marriage, divorce and migration. It can also be affected by the past trends in mortality and population movements.

The sex composition of a population is also a very important input used for social, economic and overall development planning, as consumption of goods and services do vary with sex structure of the population.

In this report the sex-ratio of the population is utilized as a measure of the sex-composition of the population. The sex-ratio relates the number of males to females in a population and, therefore, measures the numerical balance between the two sexes. In this section two types of sex-ratios, the general sex-ratio and the age specific sex-ratio are analyzed.

a) General Sex-ratio

The general sex-ratio of the population is the number of males per 100 females in the population. The overall general sex-ratio for all the regions is observed to be 100.7 indicating about 0.7 excess of males per 100 females.

Among the regions, the general sex-ratio varies significantly (see Table 2.16). In 5 out of the 12 regions, males exceed females in the population while in the remaining 7 regions the converse is true. The highest general sex-ratio (115) is observed in Arssi region, in which there is about 15 more males per 100 females. Similarly, excess of males over females are observed in Gojjam (101.2), Gondar (104.6), Hararge (103.3) and Sidamo (103.9). The lowest sex-ratio (i.e., the highest excess of females over males) is observed in Bale region (94.4). In the remaining six regions, the excess of females over males ranges between 0.2 per 100 in Illubabor (sex-ratio = 99.8) and 4 per 100 in Keffa (sex ratio = 96.0).

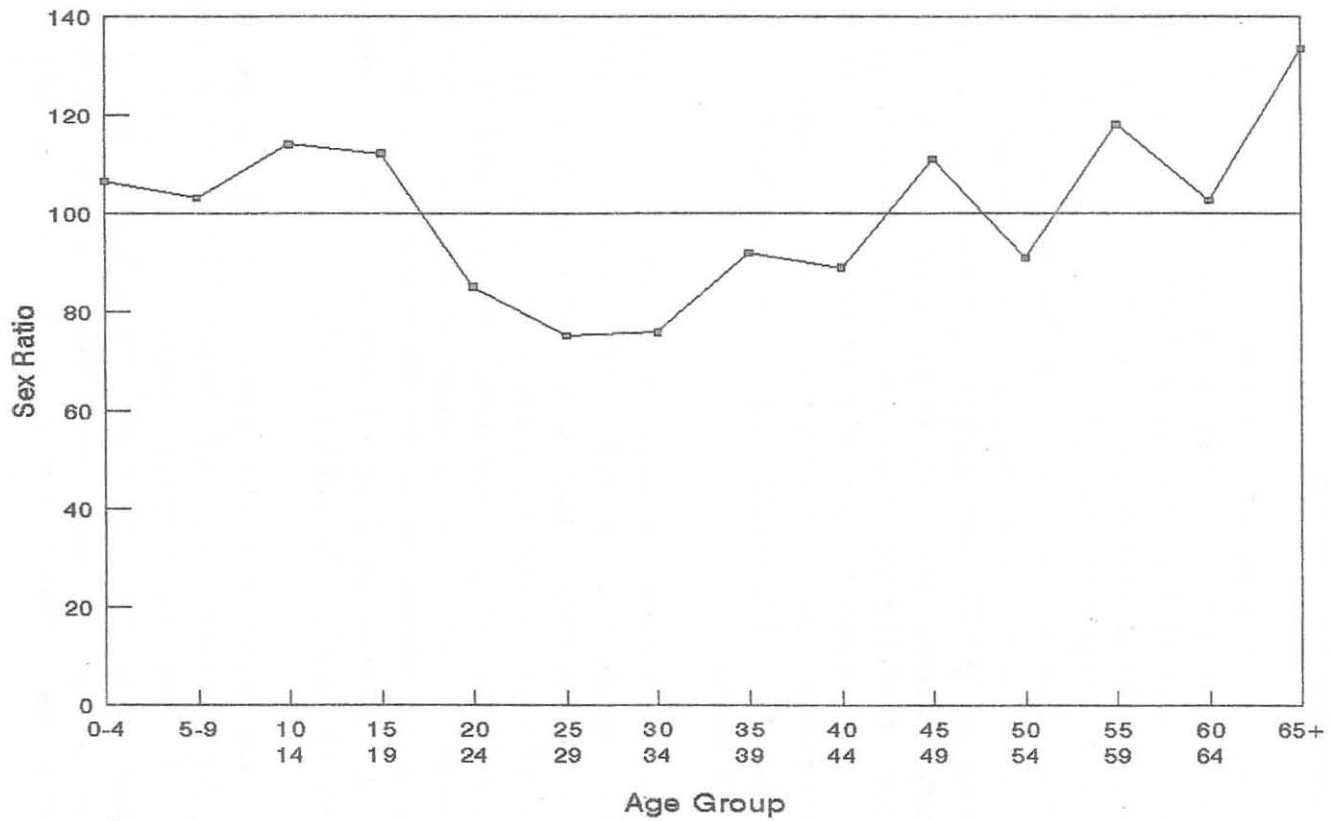
b) Age Specific Sex-Ratio

Age specific sex-ratio measures the number of males per 100 females in each age group. Table 2.16 gives the age-specific sex ratio by age and region. The analysis of the age specific sex-ratio reveals that the sex differential in the age structure are also typical. They depart from the usual pattern only in age groups 45-49 years and 55 years and over, where females predominate males. The typical pattern of the age-specific sex-ratios is such that males predominate females in the early stages but females form a greater percentage of the population in the later part of life. The present age specific sex ratio, more or less, follows the general pattern except that it departs from the usual pattern in the above mentioned age groups(see Table 2.16 and Figure 2.2). Figure 2.2 depicts the pattern mentioned above for the overall age specific sex-ratio for the 12 regions.

Table 2.16 Age Specific Sex-Ratio of the Population by Region, Rural Ethiopia, 1986/87

Region	Age group														
	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65+	Total
Arssi	148.4	101.2	121.9	169.3	105.3	71.9	69.9	84.5	87.2	106.9	86.7	123.2	108.4	144.2	115.0
Bale	99.1	98.9	115.4	108.1	75.2	58.5	64.8	72.5	70.7	104.7	87.8	124.6	94.7	133.6	94.4
Gamo Goffa	94.7	107.7	110.9	114.0	74.0	74.3	78.0	92.6	97.0	114.9	105.6	116.1	111.2	140.1	98.6
Gojjam	100.9	104.0	122.3	87.6	81.7	92.7	88.9	104.3	92.7	111.0	95.9	139.7	107.3	133.2	101.2
Gondar	103.1	104.6	112.0	97.2	93.1	90.4	85.1	108.3	97.0	141.0	102.4	145.8	121.1	146.5	104.6
Hararge	106.2	106.2	112.8	119.7	78.5	69.8	84.4	112.6	116.0	120.0	91.9	106.6	105.7	128.5	103.3
Illubabor	106.0	100.2	113.0	126.2	98.9	74.6	72.2	86.0	88.7	101.2	88.0	119.5	91.7	113.3	99.8
Keffa	98.8	103.5	117.8	120.9	78.5	64.0	68.7	82.9	84.8	115.1	81.7	96.1	94.9	127.8	96.0
Shewa	102.4	101.1	110.9	109.0	87.4	70.1	73.2	90.6	90.2	111.6	88.9	112.9	98.1	129.1	98.6
Sidamo	115.6	104.3	116.8	128.6	76.2	72.1	70.6	84.4	83.0	103.2	106.8	125.6	143.3	193.0	103.0
Wellega	100.4	104.4	106.3	92.3	88.3	73.4	78.4	94.1	87.1	109.7	92.0	111.5	90.6	119.5	97.2
Wollo	101.0	100.0	113.2	119.6	93.6	84.3	66.1	82.6	70.5	97.9	76.2	114.7	87.7	120.3	96.9
Total	106.4	103.0	113.9	112.0	85.0	75.0	75.7	91.9	88.9	110.8	90.9	118.0	102.5	133.4	100.7

Figure 2.2 Sex Ratio Of The Population, 12 Regions, Rural Ethiopia, 1986/87



At regional level, similar pattern as in the overall age specific sex-ratios depicted by Figure 2.2 are observed, except for few regions (see Table 2.16). The deviation of the age-specific sex-ratios from the general pattern could be attributed, among other things, to age mis-reporting by both sexes at advanced ages.

2.4 Age Dependency Ratio

The age structure of the rural population has a significant demographic and economic implication which are very useful for purposes of economic, social and overall development planning. While population with higher proportion of youth is characterized by high fertility and that with higher proportion of population beyond the age of 65 years indicate a lower fertility and mortality. From economic point of view, a population with higher proportion of youth and higher proportion of aged imply high dependency burden in that population. The variation in the proportion of children, aged persons, and persons of working age are taken into account jointly in the age dependency ratio. The age dependency ratio indicates the relative predominance of persons in the dependent ages in relation to those in the productive ages.

Three different age dependency ratios are calculated for the age data. These are, young, old and overall dependency ratios. The young dependency ratio is defined as the ratio of youth under 15 years of age to adults aged 15-64 years. The old dependency ratio is defined as persons aged 65 years and over to adults aged 15-64 years. The overall dependency ratio is defined as the ratio of youth under 15 years of age plus persons aged 65 years and over to adults aged 15-64 years. The age dependency ratios are given by region in Table 2.17.

The age data for the present study suggests a very high overall dependency ratio of about 110 persons per 100 working persons in the productive ages (15-64 years). The young dependency ratio is relatively very high, (about 102 per 100 in the working age groups; and the old age dependency ratio is relatively low, (about 9 per 100 in the working age group).

The figures for the overall dependency ratio vary substantially from region to region. It is observed to be very high in Bale and Arssi Regions (140.3 and 137.3, respectively); while it is observed to be the lowest in Wollo (94.8 dependents

per 100 working age population) (see Table 2.17). These figures reflect the differences from region to region in the burden of dependency which the productive population must bear.

Table 2.17 Young, Old and Overall Dependency Ratio by Region, Rural Ethiopia, 1986/87

Region	Dependency Ratio		
	Young[1/]	Old[2/]	Overall[3/]
Arssi	128.0	9.3	137.3
Bale	128.8	11.5	140.3
Gamo Goffa	96.5	6.7	103.2
Gojjam	97.3	6.5	103.8
Gondar	100.6	7.3	107.9
Hararge	104.2	5.5	109.7
Illubabor	91.5	11.8	103.3
Keffa	98.6	8.3	106.9
Shewa	102.1	9.3	111.4
Sidamo	108.2	6.7	114.9
Wellega	100.6	10.8	111.4
Wollo	82.5	12.3	94.8
Total	101.7	8.6	110.3

1/ Young dependency ratio = $\frac{\text{\% of the population aged 0-14}}{\text{\% of the population aged 15-64}} \times 100$

2/ Old dependency ratio = $\frac{\text{\% of the population aged 65+}}{\text{\% of the population aged 15-64}} \times 100$

3/ Overall dependency ratio= Young dependency ratio + Old dependency ratio.

As the figures for the regions indicate the young dependency ratios are high and vary significantly as compared to the old dependency ratios. The young dependency ratios are high in Bale and Arssi (128.8 and 128 per 100 worker, respectively). In the remaining regions, the young dependency ratios vary from 91.5 to 108.2 per 100 workers. These differences are related to differences in the proportion of births and deaths and hence differences in fertility rates and high mortality at old ages.

In conclusion, the age dependency ratio is relatively high in regions where fertility is high. The age pattern indicates, among other things, high dependency burden, which is the commonly observed characteristics of high fertility countries. Variations in the age dependency ratios reflect, in a general way, the contributions of the variations in age composition to variations in economic dependency. However, the figures for the dependency ratios suggest that in the rural areas less than half of the total population is in working age group and every working person supports more than one non-working person and himself/herself for his/her basic necessities like food, shelter, clothing,..., etc. Note that the age dependency ratio is a measure of age composition not of economic dependency, since the economic dependency ratio may be defined as the ratio of the economically inactive population to the active population over-all ages or to non workers to workers.

CHAPTER III

FERTILITY

Fertility is one of the most important components of demographic change; the others being mortality and migration. Fertility is the childbearing performance of individuals, couples, groups or populations (Roland Pressat, 1985). The purpose of this chapter is to study the number of births during the year under reference, levels and patterns of fertility, births by month of occurrence and births by type of attendance.

The basic data for fertility analysis are obtained from the vital event registration and from the two rounds of household surveys. The first source, the registration system, provides data on births. The second source, the two rounds of household surveys, provide data on the age-sex composition of the population and the number of children born during the year. In spite of that, the fertility measures used in this chapter are based on registered birth events only. However, because of the incompleteness of the registration, the fertility measures should be used with caution.

3.1 Number of Births

During the year under consideration (from September 1986 to September 1987) 1,088,332 births were recorded of which 562,768 were males and the remaining 525,564 were females (see Table 3.1). There is a considerable difference in the number of births recorded among the regions. Of the total recorded births, about a quarter of them were in Shewa region while only 2.6 and 2.7 percents were recorded in Bale and Illubabor regions. In the remaining regions, the percentage of recorded births vary between 4 and 10. The reasons for the variation in the number of recorded births in the different regions account for the difference in the size of the population of each region. For instance, Shewa constitutes about a quarter of the total rural population covered in ESVRS while Bale and Illubabor constitute only about 2 and 3 percent, respectively.

The number of births in each region does not indicate the prevalence or incidence of fertility. Hence, in section 3.3, measures of fertility, which indicate the level of fertility and its differentials among the regions are considered.

Table 3.1 Number of Births Registered by Sex and Region, Rural Ethiopia, 1986/87

Region	Number of Births					
	Male		Female		Both Sexes	
	Number	%	Number	%	Number	%
Arssi	35,670	6.3	33,691	6.4	69,361	6.4
Bale	14,301	2.6	13,335	2.5	27,636	2.6
Gamo Goffa	23,241	4.1	22,382	4.3	45,623	4.2
Gojjam	55,723	9.9	52,598	10.0	108,321	10.0
Gondar	37,961	6.7	35,141	6.7	73,102	6.7
Hararge	52,285	9.3	46,145	8.8	98,430	9.0
Illubabor	14,920	2.7	13,842	2.6	28,762	2.7
Keffa	42,790	7.6	42,311	8.1	85,101	7.8
Shewa	138,210	24.6	127,774	24.3	265,984	24.4
Sidamo	56,688	10.1	52,380	10.0	109,068	10.0
Wellega	37,925	6,7	36,504	6.9	74,429	6.8
Wollo	53,054	9.4	49,461	9.4	102,515	9.4
Total	562,768	100.0	525,564	100.0	1,088,332	100.0

3.2 Measures of Fertility

Fertility measures discussed in this section include crude birth rate (CBR), general fertility rate (GFR), age specific fertility rate (ASFR), total fertility rate (TFR), gross reproduction rate (GRR) and net reproduction rate (NRR). These measures are all based on the data in Tables 3.1 and 2.1 - 2.14. The calculated values of measures of fertility are given in Table 3.2, 3.3 and 3.4. For both CBR and GFR two different values are calculated. One is the observed value while the other is the value adjusted (standardized) for population age composition.

a) Crude Birth Rate

Crude birth rate (CBR) is the most commonly used measure of fertility. It refers to the number of births in a year per 1000

mid year population (Shryock and Siegel. 1976). For the year 1986/87, according to the number of registered births, the observed crude birth rate for the rural areas is 35.5 per 1000 population.

Comparisons of CBR among regions are done by considering the standardized rates. Accordingly, the relatively highest CBR is found in Arssi (45.6) while the lowest is observed in Illubabor region (29.1). In the rest of the regions, the birth rates varied from 30.4 in Wellega to 39.7 in Gondar. The rates for Arssi, Bale, Wollo, Gondar, Keffa, Shewa and Hararge are all above the rate for the total rural areas (35.5). These variations may be affected by the different levels of completeness of birth registration in different regions.

b) General Fertility Rate

General fertility rate (GFR) is yet another measure of fertility expressed as the number of births per 1000 women of child bearing age (Shryock and Siegel. 1976). This is found to be 168.5 for the rural areas. Considering the standardized general fertility rates for comparison among the regions, it is found that relatively the highest GFR is observed in Arssi (216.4) followed by Bale (208.7) and Wollo (203.2).

Table 3.2 Crude Birth Rates and General Fertility Rates by Region, Rural Ethiopia, 1986/87

Region	CBR		GFR	
	Reported	Standardized[a]	Reported	Standardized[b]
Arssi	38.2	45.6	214.4	216.4
Bale	40.6	44.0	210.0	208.7
Gamo Goffa	39.3	34.4	172.0	163.1
Gojjam	32.6	31.7	149.1	150.4
Gondar	38.1	39.7	185.1	188.5
Hararge	36.9	35.7	176.5	169.5
Illubabor	29.1	29.1	138.5	138.0
Keffa	42.9	39.3	193.0	186.6
Shewa	36.5	37.2	175.0	176.5
Sidamo	28.1	26.8	130.3	127.0
Wellega	29.1	30.4	138.3	144.1
Wollo	42.4	42.8	198.4	203.2
Total	35.5	35.5	168.5	168.5

a. The age structure of the female population and the total population of the 12 regions are used as the standard.
b. The age structure of total women of the 12 regions is used as the standard women population.

On the other extreme, the relatively lowest GFR is observed in Sidamo (127) followed by Illubabor (138). In the rest of the regions, the rates vary from 144.1 in Wellega to 188.5/1000 in Gondar regions. The rates for Arssi, Bale, Wollo, Gondar, Keffa, Shewa and Hararge are above the rate for the whole of the rural areas (168.5).

c) Age Specific Fertility Rate

The frequency of child-bearing varies considerably from one age group to another within the reproductive age. The age pattern of fertility is indicated by the age specific fertility rates (ASFR). The age specific fertility rates are the yearly number of live births by women in each age group (15-49 years). A schedule of age specific fertility rates reveals more information about the child bearing activity of the population at a given moment than any of the above fertility rates (CBR or GFR), Table 3.3 gives the age specific fertility rates by region.

It is observed from the Table that the overall age specific fertility rates start from as low as 67.9 per 1000 women at age group 15-19 years and shoot up sharply to reach a peak (267.9 per 1000 women) at age group 25-29 years and remain almost equally high at age group 30-34 years and declines sharply there after at an accelerated pace with increase in age (see also Figure 3.1). Figure 3.1 approximates a normal curve moderately skewed to the right, thus depicting a pattern of a late peak type in which the maximum fertility rate by age is observed in age group 25-29 years.

The age pattern of fertility in the regions covered in the ESVRS is similar to the afore-mentioned pattern. The peak age-group in all the regions is 25-29 years. However, there is a considerable variation in the magnitude of births at each age group in each region. For instance, the relatively highest number of births in age groups 15-19, 20-24 and 25-29 are observed in Arssi region, in age groups 30-34 and 35-39 are observed in Wollo region and in age groups 40-44 and 45-49 are observed in Bale region. On the other extreme, the lowest fertility rates in age groups 15-19, 40-44 and 45-49 are observed in Gamo Goffa region, in age groups 20-24 and 30-34 are observed in Illubabor region and finally in age groups 25-29 and 35-39 are observed in Sidamo region.

Table 3.3 Age Specific Fertility Rates (per 1000) by Region, Rural Ethiopia, 1986/87

Region	Age Group						
	15-19[1]	20-24	25-29	30-34	35-39	40-44	45-49[2]
Arssi	118.8	299.6	322.7	281.1	243.6	115.5	43.4
Bale	97.4	255.4	313.2	281.5	245.8	133.7	82.3
Gamo Goffa	33.6	229.5	285.0	258.5	185.5	60.5	29.1
Gojjam	63.4	196.4	224.0	211.0	182.0	85.9	47.9
Gondar	111.5	225.0	300.3	246.6	216.4	99.1	34.6
Hararge	42.2	214.4	286.5	270.8	193.9	93.8	30.4
Illubabor	85.8	168.6	219.4	156.3	150.6	75.7	63.6
Keffa	90.4	246.8	273.9	272.9	223.3	89.3	36.8
Shewa	74.7	239.3	284.1	251.7	195.9	81.8	37.9
Sidamo	35.8	197.8	219.1	196.0	125.4	43.8	13.0
Wellega	48.8	207.3	239.3	198.4	156.1	66.3	46.4
Wollo	75.7	216.5	317.3	290.0	274.6	132.4	72.2
Total	67.9	221.2	267.9	242.0	193.6	86.1	41.6

1. Birth to mothers aged under 15 years are included in this age group.

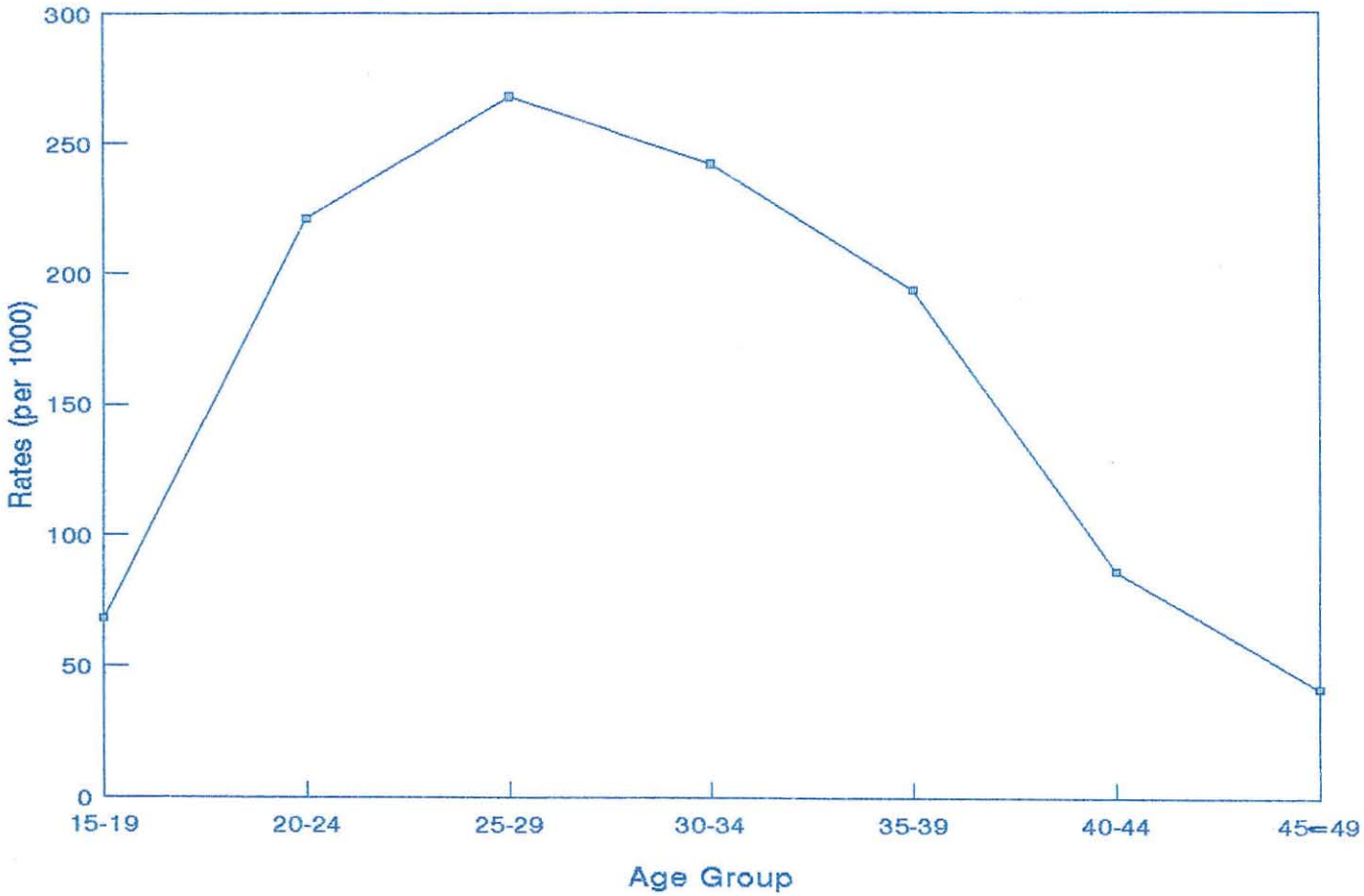
2. Birth to mothers aged 50 years and above are included in this age group

d) Total Fertility Rate

Total fertility rate (TFR) is the number of children a woman would have from age 15 to age 49 if she were to bear children at the prevailing age specific fertility rates. It is independent of age and sex composition of the population and indicates the average number of children expected to be born per women during the entire span of reproductive period if the age specific fertility rates continue to be the same and there is no mortality. The total fertility rates of each region are given in Table 3.4.

As shown in the Table, the total fertility rate for the rural areas under consideration is about 6 children per woman.

Figure 3.1 Age Specific Fertility Rates (per 1000), 12 regions, Rural Ethiopia, 1986/87



Examining the total fertility rates by region, one observes considerable variations. Arssi has the highest TFR (7.1) followed by Bale region (7). On the other hand, Sidamo has the lowest TFR (4.2) followed by Illubabor region (4.6) and Wellega region (4.8).

Table 3.4 Total Fertility, Gross and Net-reproduction Rates by Region, Rural Ethiopia, 1986/87

Region	Rates		
	TFR	GRR	NRR
Arssi	7.1	3.5	2.0
Bale	7.0	3.4	2.5
Gamo Goffa	5.4	2.7	1.9
Gojjam	5.1	2.4	1.8
Gondar	6.2	3.0	2.2
Hararge	5.7	2.7	1.6
Illubabor	4.6	2.2	1.5
Keffa	6.2	3.1	1.9
Shewa	5.8	2.8	2.1
Sidamo	4.2	2.0	1.6
Wellega	4.8	2.4	1.8
Wollo	6.9	3.3	2.7
Total	5.6	2.7	1.9

e. Gross Reproduction Rate

When the age specific fertility rates are calculated on the basis of female births only, then the cumulated value of these ASFRS at the end of the reproductive period is known as gross reproduction rate (GRR). GRR indicates the average number of female children expected to be born per women during the entire reproductive span of 15-49 years if there is no mortality and fertility schedules represented by the age specific fertility rates continue to remain the same. GRR is also considered as a replacement index as it provides an indication as to whether the females of one generation would be replaced by a smaller or larger or equal number of females in the succeeding generation under assumption of consistent fertility and no mortality. The

GRR for the overall rural areas and the rural areas of each region are given in Table 3.4.

The overall GRR for the rural areas under consideration is found to be 2.7 female children per woman. At regional level, Arssi has the highest GRR (3.5) followed by Bale (3.4) and Wollo (3.3). The lowest GRR is found in Sidamo (2.0), followed by Illubabor (2.2). The rates for the remaining regions are in the range of 2.4 (Wellega and Gojjam) to 3.1 (Keffa).

f) Net Reproduction Rate

Another fertility index related to GRR is the Net-reproduction rate (NRR). NRR measures the average number of daughters per woman expected to be ever born to a cohort of women according to a fixed schedule of fertility and mortality rate. It indicates the extent to which a cohort of women would eventually replace themselves under the assumed conditions of fertility and mortality. The values of NRR for the rural areas of each region have been worked out on the basis of graduated abridged life tables constructed from the death information registered for females of each region for the period 1986/87 and the age specific fertility rates, for daughters only, for the same period. The NRRs calculated in this way are given in Table 3.4.

The overall NRR for the whole rural areas is found to be 1.9. At regional level, Arssi (2.0), Bale (2.5) Gondar (2.2), Shewa (2.1) and Wollo (2.7) are found to have NRR values higher than the overall NRR value. The highest value of NRR is found to be 2.7 (Wollo) followed by 2.5 (Bale). The lowest value of NRR is found to be 1.5 (Illubabor) followed by 1.6 (Hararge).

g. Mean Age of Child-bearing

Differences in the age pattern of child bearing are also measured in terms of the mean age of child bearing (or mean age of mothers at the birth of their children). In order to eliminate the effect of differences in the age-sex composition of the population being compared, these measures are calculated on the basis of the age specific fertility rates given in Table 3.3. The results of these calculations are given in Table 3.5.

These figures can be interpreted then as describing the age pattern of child bearing of a synthetic cohort of women i.e., a

hypothetical group of women who are viewed as having in their life time the fertility experience recorded in a single calendar year. Thus, the mean age of fertility for the rural area is found to be 30.6 years. At regional level, the highest value is found in Wollo region (31.7) followed by Bale region (31.2) and Gojjam region (31). The lowest value of mean age of mothers at the birth of their children is found in Sidamo region (29 . In the remaining regions, the mean age ranges from 30.1 in Arssi to 30.9 in Hararge.

Table 3.5 Mean Age of Mothers At The Birth of Their Children by Region, Rural Ethiopia, 1986/87

Region	Mean age of mothers
Arssi	30.1
Bale	31.2
Gamo Goffa	30.4
Gojjam	31.0
Gondar	30.2
Hararge	30.9
Illubabor	30.8
Keffa	30.4
Shewa	30.3
Sidamo	29.7
Wellega	30.6
Wollo	31.7
Total	30.6

These differences in fertility experience of rural women of the different regions tend to distinguish populations that have their children relatively early in the child bearing period and those that have them relatively later in life. Accordingly, mothers in Sidamo, Arssi and Gonder have their children relatively early than mother in Wollo, Bale and Gojjam.

3.3 Seasonality of Births

Information on dates of occurrence of births in months, days and years were obtained during the registration process. This information enables the study of seasonality of births. This exercise allows one to examine seasonality variation in the occurrence of births. To study this phenomena seasonality indices were calculated for each month and region. In the computation of the indices, it is assumed that births are evenly distributed over the 12 months. In other words, it is assumed that the chance of a birth to occur in any one of the 12 months of the year is equal. This assumption implies that if there is no seasonal variation the index is expected to be 1 (or 100 if multiplied by 100). The results of these computations and the percentages of births in each month are given in Table 3.6. Earlier in Table 1.2 of Chapter I the Ethiopian and the corresponding Gregorian months in a year were presented.

The figures for seasonality index as well as the percentages of births in each month indicate that there is a considerable seasonal variation in the occurrence of births. For the whole rural areas, both the seasonality index (SI) and the percentages of births in each month show the highest peak in the month of Ginbot SI = 130 followed by the month of Hamle SI = 120.4, Sene SI = 108.5, Megabit SI = 108.3 and Miazia SI = 107 . On the other hand, the occurrence of births are relatively lowest in the months of Meskerem SI = 80.2. In the remaining months, the seasonality index of birth ranges between 83 and 100. (see also Figure 3.2).

At regional level, there is a considerable variation in the peak month of occurrence of birth. The month of Ginbot is a peak month in Arssi, Gamo Goffa, Gojjam, Gonder, Keffa, Shewa, Sidamo, Wellega and Wollo. Megabit is the peak month in Bale while in Hararge and Illubabor it is the month of Hamle (see Table 3.6). The percentage distributions of births by month and the seasonality indices show similar pattern of births by month of occurrence.

Table 3.6 Percentage and Seasonality Index Distribution of Births by Month of Birth and Region, Rural Ethiopia, 1986/87

Region	% & SI	Month of Births[1/]												Total	
		Meskerm	Tikmt	Hidar	Tahsas	Tir	Yekatit	Megabit	Miazia	Ginbot	Sene	Hamle	Nehase	%	No.
Arssi	%	6.9	6.8	7.0	7.0	8.2	8.2	9.9	8.5	11.2	6.5	9.2	10.6	100	67,524
	S.I	83.2	81.2	84.3	83.7	98.8	97.7	118.5	102.3	134.6	77.6	110.6	127.5		
Bale	%	7.9	7.0	7.2	8.3	8.3	9.1	11.0	9.6	9.4	8.6	7.5	6.1	100	27,572
	S.I	94.5	83.8	86.3	99.1	100.1	109.7	132.4	115.2	112.5	103.0	90.0	73.5		
Gamo Goffa	%	5.8	7.0	6.2	5.9	7.6	8.4	9.5	9.1	12.0	9.2	8.4	10.9	100	45,253
	S.I	69.1	84.6	74.1	71.3	90.7	101.2	113.8	109.4	144.3	110.5	100.7	130.4		
Gojjam	%	5.1	7.1	8.2	7.5	9.6	8.1	9.1	8.8	10.6	8.0	9.7	8.2	100	106,923
	S.I	61.5	85.5	98.5	90.3	115.3	96.9	109.4	105.3	127.4	96.4	116.3	97.4		
Gondar	%	6.3	6.6	9.1	8.2	8.7	8.3	7.6	8.6	10.7	8.0	8.9	9.0	100	72,232
	S.I	76.1	79.6	108.8	98.3	104.9	99.7	91.4	102.6	128.7	95.4	106.3	108.2		
Hararge	%	7.1	6.5	7.0	6.0	7.2	8.1	8.7	8.8	10.6	9.7	11.5	8.8	100	97,135
	S.I	85.6	78.4	83.7	72.4	86.3	97.4	103.8	105.2	126.6	116.2	138.1	106.2		
Illubabor	%	8.0	8.4	6.8	7.3	6.54	6.9	8.6	8.5	8.5	8.7	13.0	8.8	100	28,648
	S.I	96.3	100.2	81.6	87.3	78.0	82.2	103.7	101.7	102.4	104.6	156.4	105.9		
Keffa	%	8.1	8.5	6.8	6.1	7.8	8.3	8.0	9.2	11.3	9.1	10.3	6.5	100	84,799
	S.I	97.4	101.9	81.5	72.9	93.2	100.0	96.5	110.5	135.1	109.7	123.2	78.0		
Shewa	%	7.1	7.3	6.8	7.0	6.5	7.1	9.1	8.8	10.6	9.9	10.4	9.4	100	262,755
	S.I	85.0	87.4	81.7	83.4	78.2	84.9	109.4	105.7	126.6	119.1	125.3	113.3		
Sidamo	%	6.8	6.0	6.9	5.8	8.3	5.9	9.3	9.7	13.4	10.5	11.3	6.1	100	108,370
	S.I	81.4	72.6	83.0	69.2	99.9	70.9	111.5	117.1	160.3	125.8	135.2	73.1		

Table 3.6 Contd.

Region	% & SI[2]	Month of Births[1]													
		Meskerm	Tikmt	Hidar	Tahsas	Tir	Yekatit	Megabit	Miazia	Ginbot	Sene	Hamle	Nehase	Total	
														%	No.
Wellega	%	6.4	7.0	9.3	8.4	9.5	7.8	8.8	7.9	9.5	8.1	9.5	7.8	100	74,408
	S.I	76.8	84.3	111.3	100.2	114.5	93.4	106.2	94.8	114.5	97.4	114.3	93.0		
Wollo	%	5.5	8.2	8.3	7.2	9.1	7.8	9.5	9.5	10.4	8.9	8.7	6.9	100	101,475
	S.I	66.5	98.1	99.4	86.4	109.6	93.4	114.3	113.3	124.5	106.9	104.6	82.8		
Total	%	6.7	7.2	7.4	7.0	8.0	7.6	9.0	8.9	10.8	9.1	10.0	8.3	100	1,077,090
	S.I	80.2	86.1	89.2	83.3	95.6	91.4	108.3	107.0	130.0	108.5	120.4	100.0		

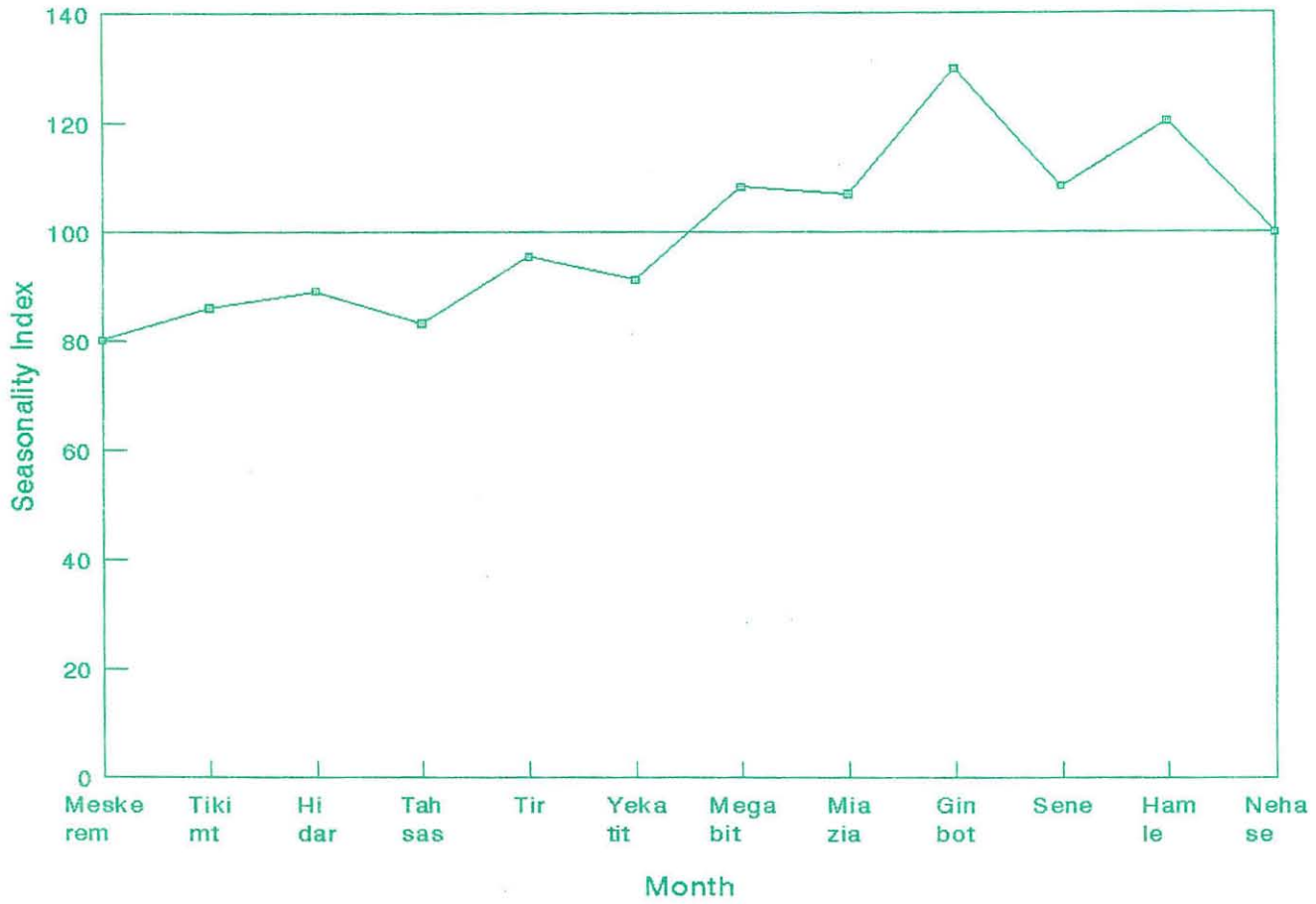
1) Does not include pagume and Not Stated.

2) Seasonality Index = Observed number of births/expected number of births x 100
Expected number of births = (Mx n)/360

M = Total number of births in a year.

n = Number of days in a month, which is in this case 30 and 360 = No. of days in a year.

Figure 3.2 Seasonality Index Of Birth by Month, 12 Regions, Rural Ethiopia, 1986/87



3.4 Type of Attendance at Birth

Information about type of attendant at birth is collected in respect of every birth recorded and this information would be useful by way of indicating the extent of availability of institutional and professional medical help. Types of attendants are classified into four categories.

1) physicians
2) community health agents
3) traditional midwife and other trained persons
4) lay persons

The percentage distribution of births according to the type of attendant at birth for the rural areas by region are shown in Table 3.7.

It is observed from the table, that in the whole rural areas, births attended by physicians comprise only 1.5 percent and those attended by Community Health Agents constitute only 0.4 percent. Births attended by traditional midwives and other trained persons account for about 28 percent while those attended by lay persons account for about 69.7 percent. In general, so far as the rural areas are concerned, births attended by trained persons (physicians, community health agents, traditional midwives and other trained persons) comprise only 30 percent.

At regional level, in general, a similar situation as the one discussed above holds. However, a few exceptional cases are observed. While the majority of births in 10 out of 12 regions were attended by lay persons, in Hararge 91.1% and in Gondar 70.6% were attended by traditional midwives and other trained persons. Furthermore, births attended by physicians are relatively higher in Illubabor (4.8%) and Wellega (4.7%).

Table 3.7 Percentage Distribution of Births by Type of Attendance at Births and Region, Rural Ethiopia, 1986/87

Region	Type of Attendant					Total	
	Physicians	Community health agent	Traditional midwife and other trained person	lay person	N/S	%	No.
Arssi	0.6	2.7	9.7	86.9	0.1	100	61,357
Bale	1.2	0.3	17.9	80.5	0.1	100	27,636
Gamo Goffa	1.8	-	15.3	82.2	0.1	100	45,625
Gojjam	0.8	0.4	13.3	84.0	1.5	100	108,320
Gondar	0.4	0.2	76.6	22.8	-	100	73,102
Hararge	0.3	0.1	91.1	8.5	-	100	98,431
Illubabor	4.8	0.7	13.2	81.1	0.2	100	28,763
Keffa	1.7	0.7	4.9	92.7	-	100	85,101
Shewa	1.5	0.3	24.6	73.0	0.6	100	265,981
Sidamo	1.0	0.1	10.8	88.1	-	100	109,066
Wellega	4.7	0.6	12.3	82.4	-	100	74,431
Wollo	1.4	-	31.8	66.8	-	100	102,516
Total	1.5	0.4	28.1	69.7	0.3	100	1,088,329

3.5 COMPLETENESS OF BIRTH REGISTRATION

For the purpose of population analysis and particularly for population estimates, it is highly desirable to appraise the completeness of birth registration. Accordingly, in this section, the completeness of birth registration by ESVRS is investigated.

The investigation of the completeness of birth registration by ESVRS will be based on some clues as to the possible degree of completeness of reporting of births. The appraisal will be concentrated on the examination of the data itself.

The procedure for the investigation of the completeness of birth registration include examination of the consistency of observed sex ratio at birth ; consistency of observed CBR with the existing socio-economic developments in the rural areas and the age structure of population under 15 years of age; and comparison of CBRs obtained by the ESVRS of 1986/87 with the CBRs obtained by the Demographic Sample Survey (DSS) of 1981/82, ESVRS of 1982/83 and 1984 census of Ethiopia.

a) Sex-ratio at Birth

The sex-ratio at birth relates male births to female births that occurred during the reference year. If birth registration is known to be accurate, male births slightly out number female births and as a result usually, there are nearly 105 male births for every 100 female births, though some variations in this ratio are possible. A ratio lower than 102 or higher than 107, while not impossible, must be regarded as rather unusual. If the deviation is large, it is certain that the birth of one sex are less completely reported than those of the opposite sex and probably, births of both sexes are incompletely reported (UN, 1995).

The sex-ratios at birth which are obtained from ESVRS are given in Table 3.8. The overall sex ratio at birth for the whole rural areas under consideration is found to be 107.1 males per 100 female births. Among the regions, there exists a wide variation in the observed sex-ratio at birth. The highest sex-ratio at birth is observed in Hararge (113.3) followed by Shewa (108.2), Sidamo (108.2) and Gondar (108). On the other hand, the lowest sex-ratio at birth is observed in Keffa (101.1).

If we assume that the sex-ratio at birth has a fixed value, say 103 male births per 100 female births (an average sex-ratio at birth for African population), then this can be used for the evaluation of the completeness of registration data. Any wide variation from this generally accepted value could lead to the suspicion that reporting is defective. On the basis of this assumption and the assumption that males are completely reported, the relative percentage of under reporting of female births are

Table 3.8 Observed Male Births per 100 Female Births and The Expected Female Births per Observed Male Births When the Sex Ratio is 103.

Region	Observed male births per 100 female births	Expected female births (x) per Observed male births when the sex-ratio is 103[a]	Percentage under reporting of female births (x) - 100
Arssi	105.9	102.8	2.8
Bale	107.2	104.1	4.1
Gamo Goffa	103.8	100.8	0.8
Gojjam	105.9	102.8	2.8
Gondar	108.0	104.9	4.9
Hararge	113.3	110.0	10.0
Illubabor	107.8	104.7	4.7
Keffa	101.1	98.2	-1.8
Shewa	108.2	105.0	5.0
Sidamo	108.2	105.0	5.0
Wellega	103.9	100.9	0.9
Wollo	107.3	104.2	4.2
Total	107.1	104.0	4.0

a) $\frac{103}{100} = \frac{\text{Observed sex ratio at birth)}}{x}$,

where, x is the expected Number of female births per observed male births when the sex-ratio at birth is taken as 103.

calculated (Kpedekpo, 1982). The results of these calculations and assumptions suggest that there is a relative under-reporting of 4 percent of female births in the overall reporting system. At regional level, the highest percentage of under-reporting is estimated for Hararge (10 percent) and the lowest is estimated for Gamo Goffa (0.8 percent) followed by Wellega (0.9 percent). In the remaining regions, the percentage under-reporting ranges from 2.8 to 5 percent. However, in the case of Keffa, percentage under reporting is indicated to be negative 1.8 in which case, the interpretation is reversed, that is males are under reported.

b) Consistency of CBR with Socio-economic Development

Vital rates are known to be functions of the health condition and other social and economic conditions of the population (UN 1978). In light of this fact, the CBR obtained by ESVRS for the rural areas are examined in light of the prevailing socio-economic conditions in the rural areas. Such examinations indicate very roughly the ranges within which the rates should probably be contained. The investigation includes an examination of the extent of variation between the observed rate and the expected rate.

The most expected range of birth rates given certain economic and social conditions can be defined more narrowly. That is, birth rates in the range of 35 and 45 per 1000 are usually considered as 'high', those in the range of 25 and 35 per 1000 as 'moderate' and those in the range of 15 and 25 as low. High rates are characteristic of most areas of the world where social customs and relationships for the great majority of the population have been little affected by the changes associated with industrialization according to the modern pattern. Low rates are generally found in those countries which have undergone a profound social transformation as a result of urbanization, industrialization, a rising level of popular education and related factors. Moderate rates tend to prevail in areas where the types of conditions mentioned are intermediate between the two extremes (UN, 1955).

In the light of the economic and social conditions existing in the rural areas of Ethiopia, the most probable range of the CBR is expected to be in the ranges of 35 and 45 per 1000. However, as can be observed in Table 3.9, in most of the regions, the observed CBR is below the expected range. For example, in Gojjam, Illubabor, Sidamo, and Wellega, the reported CBRs are 32.6, 29.1, 28.1 and 29.1 respectively. These figures indicate that the reporting of births was probably incomplete in these areas as compared with the CBRs of other regions taking into account the homogeneous nature of economic and social development among regions.

Furthermore, in some of the regions, the rates obtained by ESVRS are even lower than the rates for the urban areas obtained by the census of 1984. Almost universally among those countries having fairly complete birth registration, it has been found that the birth rate in urban areas is lower than that in rural areas.

However, in Illubabor, Sidamo, Wellega, the observed CBRs for the rural areas are lower than those obtained for the urban areas by the census of 1984 (see Table 3.9). Therefore, the rates for various regions as observed by ESVRS are not consistent with the social and economic conditions existing in the rural areas of the regions. And this could mainly be due to under registeration of births in these regions.

c) Consistency of CBR with Age Structure

A high birth rate is reflected by a high percentage of children in the population and a low birth rate by a low percentage of children unless the relation is distorted by major migratory movements (UN, 1955). A useful test called the 'forty percent test', developed by W.F. Wertheim in 1954, states that a population of which 40 percent or more are aged less than 15 years is most likely to have a birth rate of at least 40 per 1000 population (UN, 1955). The birth rate might be as low as 39 per 1000 with moderate infant mortality.

Table 3.9 Reported CBRs Obtained By ESVRS and Census of 1984 and the Age Structure of the Population Under 15 Years Obtained By ESVRS By Region, Rural Ethiopia, 1986/87

Region	CBR			
	Census		ESVRS	Population Aged Under 15 Years
	Rural	Urban	Rural	
Arssi	43.3	30.3	38.2	53.9
Bale	49.9	36.7	40.6	53.6
Gamo Goffa	46.6	37.1	39.3	47.5
Gojjam	42.3	30.7	32.6	47.7
Gondar	39.2	32.5	38.1	48.4
Hararge	45.4	31.8	36.9	49.7
Illubabor	38.2	35.8	29.1	45.0
Keffa	42.3	30.8	42.9	47.6
Shewa	39.0	31.4	36.5	48.2
Sidamo	38.9	34.5	28.1	50.3
Wellega	31.3	29.6	29.1	47.6
Wollo	30.5	26.0	42.4	42.3
Total	39.4	28.4	35.5	48.3

Comparison of CBRs obtained by ESVRS with the percentage of children aged under 15 years for the different regions indicate that the CBRs are not consistent with the age structure. In all the regions, the percentages of children aged under 15 years are 45 and above, except Wollo (42.3). On the other hand, in 9 out of 12 regions, the observed CBRs are lower than 39 (see Table 3.9). Thus, according to the 'forty percent test', there is under reporting of births in 75 percent of the regions and only in 25 percent (i.e in Bale, Gamo Goffa and Wollo regions) of the regions, consistency of CBR with age structure is maintained. This indicates that in these regions birth reporting is relatively better than the rest.

d) Comparison of CBRs Obtained By the 1986/87 ESVRS and Other Sources

In this part of the analysis, it is intended to compare CBRs obtained by the 1986/87 ESVRS with CBRs obtained by the 1981/82 Demographic Sample Survey (DSS), 1984 census of Ethiopia and 1981/82 ESVRS. The CBRs for each region, obtained by the different data sources, are presented in Table 3.10.

As indicated in the Table, in all regions, except Wollo, births are better reported in the DSS than in the 1986/87 ESVRS. The CBRs for each region obtained by the DSS are all above 40 except in two regions, Shewa and Wollo; while the CBRs obtained by the 1986/87 ESVRS are all below 40, except in three regions, Bale, Keffa and Wollo. There is a wide difference between the CBRs obtained by the two methods. For instance, the difference between the two total CBRs is 7.9 (43.4 -35.5) and this is 18.2 percent of the total CBR (43.4) obtained by the DSS. Considering the regions,the highest difference is observed in Bale (40.6), Gamo Goffa (16.8), Gojjam (17.1) and Illubabor (15.9). On the basis of percentage, these are 26.4, 29.9, 34.4 and 35.5 of the CBRs obtained by the DSS in each region, respectively.

Table 3.10 Reported CBRs Derived From the 1981/82 Demographic Sample Survey (DSS), 1984 Census of Ethiopia, 1982/83 and 1986/87 ESVRS By Region, Rural Ethiopia

Region	DSS 1981/82	Census 1984	ESVRS	
			1982/83	1986/87
Arssi	47.3	43.3	42.2	38.2
Bale	55.2	49.9	46.9	40.6
Gamo Goffa	56.1	46.6	32.4	39.3
Gojjam	49.7	42.3	39.6	32.6
Gondar	40.9	39.2	28.5	38.1
Hararge	46.2	45.4	37.5	36.9
Illubabor	45.0	38.2	25.1	29.1
Keffa	55.3	42.3	27.1	42.9
Shewa	38.5	39.0	31.0	36.5
Sidamo	40.5	38.9	30.4	28.1
Wellega	40.2	31.3	32.7	29.1
Wollo	39.8	30.5	30.3	42.4
Total	43.4	39.4	32.5	35.5

With regard to CBRs obtained by the 1984 census and 1982/83 ESVRS, it appears that births are better reported in the census than in both the 1982/83 and 1986/87 ESVRS. The CBRs in each region obtained by the 1984 census are all higher than those obtained by the 1986/87 ESVRS, except in Keffa and Wollo. On the other hand, the CBRs obtained by the 1982/83 ESVRS are higher than 1986/87 ESVRS in only six regions, while the 1986/87 CBRs are higher than the 1982/83 CBRs in other six regions. The total CBRs obtained by 1986/87 ESVRS is higher than that obtained by the 1982/83 CBRs.

Now, assuming that the reported crude birth rates for the rural areas of the twelve regions obtained by the census of 1984

are complete and there is no change in the prevailing birth rates from the census to the registration date, percentage completeness of the 1986/87 birth registration is measured by comparing the CBRs derived from the data of the 1984 census.

The reliability of this evaluation exercise, among other things, is dependent on the completeness of the reporting of births in the last 12 months before the census date. Percentage completeness of CBR evaluated against the observed set of CBR obtained from the 1984 census are presented in Table 3.11.

Table 3.11 Percentage Completeness of Birth Registration Measured by comparing the CBRs (Rural) Derived from the Data of the 1984 Census and 1986/87 Experimental Sample Vital Registration By Region, Rural Ethiopia

Region	CBR			Percentage Difference	Percentage Completeness
	a	Census b	ESVRS c=a-b	d=(c/a)100	e=100-d
Arssi	43.3	38.2	5.1	11.8	88.2
Bale	49.9	40.6	9.3	18.6	81.4
Gamo Goffa	46.6	39.3	7.3	15.7	84.3
Gojjam	42.3	32.6	9.7	22.9	77.1
Gondar	39.2	38.1	1.1	2.8	97.2
Hararge	45.4	36.9	8.5	18.7	81.3
Illubabor	38.2	29.1	9.1	23.8	76.2
Keffa	42.3	42.9	-0.6	-1.4	101.4
Shewa	39.0	36.5	2.5	6.4	93.6
Sidamo	38.9	28.1	10.8	27.8	72.2
Wellega	31.3	29.1	2.2	7.0	93.0
Wollo	30.5	42.4	-11.9	-39.0	139.0
Total	39.4	35.5	3.9	9.9	90.1

As can be seen from Table 3.11, the crude birth rate obtained by ESVRS is 90.1 percent complete as compared with that obtained by the census. In some regions, however, birth data seem to be relatively better captured by ESVRS than the census. For instance, in Wollo and Keffa birth data is 139 and 101.4 percent complete. On the other hand, birth data is poorly reported in Sidamo (72.2 percent), followed by Illubabor (76.2 percent) and Gojjam (77.1 percent). Although, the percentage completeness of CBR in Wellega is found to be 93 percent as compared with that of the census CBR, this could be due to the

fact that birth reporting in the census itself is poor. This also holds true in the case of Wollo region.

3.6 Factors Affecting the Completeness of Birth Registration

As suggested by the various methods of appraisal, the registration of birth event is incomplete. In this section some of the factors contributing to the incompleteness of the registration of births, as observed from previous and current studies, will be indicated.

Obviously, reporting of birth events is not compulsory, it is rather voluntary. Possible other factors affecting the completeness of birth and death reporting include social customs, superstitious beliefs, lack of education, lack of motivation and lack of knowledge about the uses of vital statistics on the side of the rural population. On the other hand, failures of enumerators to follow the instruction correctly and poor supervision contribute a lot to the incompleteness of the registration of births. Furthermore, lack of fund to run the registration system independently and poor management are other factors which contributed to the incompleteness of registration of vital events. Most of all, it is the absence of legislation which cover the general principle of a registration system such as, legality of collecting vital events, compel people to report the events as soon as they occur, etc., that play the major role to the incompleteness of the registration activity.

CHAPTER IV

MORTALITY

Mortality is one of the components of population change. It is the process whereby deaths occur in a population (Roland Pressat, 1985). In this chapter, the volume of deaths reported during the year 1986/87, the various measures of mortality based on the reported number of deaths, causes of death and types of medical attention received before death are discussed.

The basic sources of data on death are vital registration system and the two rounds of household surveys. The first source, the vital registration system, provides data on incidence of deaths. The second source, the two rounds of household surveys, provide data on the age-sex composition of the dead and the population. However,the level of recent mortality is inferred from the death data obtained by the registration system.

4.1 Number of Deaths

During the year under reference (1986/87), 432,616 deaths were registered. Of these 220030 (50.9%) and 212586 (49.1%) were males and females, respectively. Among the regions, number of deaths vary considerably. More than a quarter of all deaths were recorded in Shewa. The second and third largest number of deaths were recorded in Hararge (12.7%) and Gojjam (10%). The same situation holds in the case of deaths among males and females (see Table 4.1).

The above mentioned variation in the number of recorded deaths, among other things, are due to the size of the region's population. It is observed from the data that the larger the size of the population of a given region, the larger is the number of recorded deaths. For instance, Shewa, which has the largest size of population, has also the highest number of recorded deaths. Similarly, Bale, which has the smallest size of population has also the smallest number of recorded deaths. Therefore, the number of deaths in each region is directly related to size of the region's population and does not reflect actual differences in level of deaths among the regions unless it is related to the size of the regions population. Only rates calculated on the basis of the size of the population i.e., the risk population, do indicate differentials in levels of mortality among the regions. Hence, in the following section, measures of mortality which indicate the level of mortality in each region are discussed.

Table 4.1 Number of Death Registered by sex and Region, Rural Ethiopia, 1986/87

Region	Number of Deaths					
	Male		Female		Total	
	Number	%	Number	%	Number	%
Arssi	18,046	8.2	18,055	8.5	36,101	8.3
Bale	4,593	2.1	4,465	2.1	9,058	2.1
Gamo Goffa	10,556	4.8	10,198	4.8	20,754	4.8
Gojjam	20,972	9.5	22,326	10.5	43,288	10.0
Gondar	13,168	6.0	11,487	5.4	24,655	5.7
Hararge	27,616	12.6	27,457	12.9	55,073	12.7
Illubabor	8,051	3.7	8,558	4.0	16,009	3.7
Keffa	22,216	10.1	19,993	9.4	42,209	9.8
Shewa	45,978	20.9	42,942	20.2	88,920	20.6
Sidamo	19,023	8.6	18,244	8.6	37,267	8.6
Wellega	17,910	8.1	17,686	8.3	35,596	8.2
Wollo	11,901	5.4	11,185	5.3	23,086	5.4
Total	220,030	100	212,586	100	432,616	100

4.2 Measures of Mortality

A number of mortality measures are analyzed in this section. These include the crude death rate (CDR), infant mortality rate (IMR), neonatal mortality rate (NMR), post neonatal mortality rate (PNMR), age-sex/specific death rate (ASSDR) and measures based on the life table functions such as expectation of life and probability of surviving.

a) Crude Death Rate

A convenient measure of mortality experience of all ages of the population is the crude death rate. It is defined as the number of deaths in a year per 1000 average population. It shows

the level of mortality in an entire population. The registered crude death rate for the entire rural population under study is found to be 14.1 per 1000 population. A comparison of overall male and female crude death rates shows very little difference between the two. The male death rate (14.3) is slightly higher than the female death rate (13.9) (see Table 4.2).

Table 4.2 Crude Death Rates by Sex and Region, Rural Ethiopia, 1986/87

Region	Crude Death Rate					
	Observed			Standardized		
	Male	Female	Both	Male	Female	Both
Arssi	18.6	21.4	19.9	15.4	19.6	17.3
Bale	13.9	12.8	13.3	12.0	11.4	11.5
Gamo Goffa	18.3	17.4	17.9	18.5	17.0	17.7
Gojjam	12.6	13.5	13.0	12.4	13.2	12.8
Gondar	13.4	12.3	12.9	13.2	12.0	12.7
Hararge	20.4	20.9	20.6	20.8	20.8	20.8
Illubabor	16.3	17.3	16.8	15.7	15.9	15.8
Keffa	22.9	19.8	21.3	22.6	19.1	20.8
shewa	12.7	11.7	12.2	12.7	11.6	12.2
Sidamo	9.6	9.6	9.6	9.6	10.4	9.9
Wellega	14.2	13.7	13.9	17.1	13.0	13.3
Wollo	10.0	9.1	9.5	10.4	9.2	9.8
Total	14.3	13.9	14.1	14.3	13.9	14.1

Although, the CDR shows the level of mortality in an entire population it is not a very good index for comparing mortality levels among the different regions for a number of reasons. Among other things, the CDR is affected by differences in the age-sex structure of the population of each region. To overcome this limitation, the observed CDR is standardized by controlling for the effect of differences in the population composition due to age and sex. The total rural population is used as the standard population in the case of CDR for both sexes and the total rural male and female population are used as the standard

for standardizing male and female observed CDRs, respectively.

According to the standardized CDRs, Hararge and Keffa have the highest CDRs (20.8 each) followed by Gamo Goffa (17.7) and Arssi (17.3). On the other extreme, Wollo (9.8) and Sidamo (9.9) have the lowest crude death rates. In the remaining regions, the rates vary between 11.5 (Bale) and 15.8 (Illubabor) (see Table 4.2). These variations may be affected by the different levels of completeness of death registration in different regions.

Comparison of male and female crude death rates by region shows relatively higher male death rates in Bale (12 vs 11.4), Gamo Goffa (18.5 vs. 17), Gondar (13.2 vs 12), Keffa (22.6 vs. 19.1), Shewa (12.7 vs. 11.6), Wellega (17.1 vs. 13) and Wollo (10.4 vs. 9.2) (see Table 4.2). The margin of differences in most of these regions are very small or even negligible. Only in the case of Wellega and Keffa regions the margin of difference is quite high. In Arssi, Gojjam, Illubabor and Sidamo regions female death rates (19.6, 13.2, 15.9 and 10.4) are found to be higher than male death rates (15.4, 12.4, 15.7 and 9.6). In these cases also, the margin of difference is generally small, except in the case of Arssi, where the margin of difference is quite high. In Hararge, both males and females have equal death rates (20.8) (see Table 4.2).

b) Infant Mortality Rate

Infant mortality rate is expressed as the number of infant deaths in a year per 1000 live births during the same year. However, since some of the infants who may have died during the calendar year may have been born in the preceding year; and some of those born during the calendar year may not die until the following year, it is assumed that deficiencies in one direction are offset by excess in the other. The infant mortality rates for the calendar year under reference (1986/87) are given in Table 4.3.

The level of infant mortality is relatively high. It is about 95 per 1000 live births for the whole of the rural areas under consideration. Among the regions, the lowest rate is observed in Wollo (61.6) followed by Wellega (68.9) and Gojjam (69.4). On the other hand, the highest rate is observed in Arssi (188.9) followed by Gamo Goffa (132.6), Keffa (115.1) and Bale (113.8). In the rest of the regions, the rates vary between 77.2 and 101.7 per 1000 live births during the year.

Table 4.3 Infant Mortality Rates by Sex and Region, Rural Ethiopia, 1986/87

Region	Infant Mortality Rates		
	Male	Female	Both Sexes
Arssi	212.3	164.3	188.9
Bale	123.5	103.6	113.8
Gamo Goffa	141.8	117.7	132.6
Gojjam	65.5	73.6	69.4
Gondar	87.2	66.4	77.2
Hararge	102.9	100.2	101.7
Illubabor	80.7	92.5	86.4
Keffa	122.2	107.8	115.1
Shewa	98.3	85.4	92.1
Sidamo	82.1	85.1	83.5
Wellega	69.6	68.3	68.9
Wollo	66.5	55.3	61.1
Total	99.2	89.3	94.6

Comparison of the observed male and female infant mortality rates for the whole rural areas show that male infant mortality rate (99.2) is higher than the female (89.3). In few regions, female infant mortality rates are observed to be higher than the male while in most of the regions the reverse is the case. The regions with higher female infant mortality rates are Gojjam (73.6 VS. 65.5) Illubabor (92.5 VS. 80.7) and Sidamo (85.1 VS. 82.1). In the remaining regions, male infant mortality rates are higher than the female (see Table 4.3).

The total infant mortality rate for infants under one year is also grouped by age at death yielding the neo-natal and post-neo-natal mortality rates. Table 4.4 gives the two rates by region and sex.

c) Neo-natal Mortality Rate

The neo-natal mortality rate is the number of deaths of infants under 4 weeks (under 1 month) of age during the year per 1000 live births during the same year. From Table 4.4, it can be seen that the neo-natal mortality rate for the total rural areas under study is 43.8 per 1000 live births. Considering this mortality index by region, the highest neo-natal mortality rate

is found in Arssi (84) followed by Gamo Goffa (68.4) and Bale (58.2).

On the other extreme, the lowest neo-natal mortality rate is observed in Gojjam (28.6) followed by Sidamo (29.5). In the rest of the regions, the rates vary between 32.7 (Wollo) and 52.9 (Hararge).

Higher neonatal mortality rates for males than females are observed. The overall rate for males is 48.6 while that of females is 38.3 per 1000 live births. At regional level, males have higher neo-natal mortality rates than females in every region, except in Gojjam, (see Table 4.4).

d) Post-neo-natal Mortality Rate

Post-neo-natal mortality rate is expressed as the number of deaths of infants aged between exactly 4 weeks and under 1 year during the year per 1000 live births during the year. From Table 4.4, it can be seen that the post-neo-natal mortality rate for the whole rural areas under consideration is found to be 50.8.

At regional level, the highest post-neo-natal mortality rate is found in Arssi (105). On the other hand, the lowest post-neo-natal mortality rate is found in Wollo (28.4 per 1000 live births) followed by Wellega (35.5), Gojjam (40.9) and Gondar (41.9). In the rest of the regions, the rates vary between 48.2 and 64.2.

Comparison of male and female post-natal mortality rates show that females have slightly higher post-neo-natal mortality rates than males. The rates are 51 and 50.6 for females and males, respectively. Considering this index at regional level, some regions have higher male post-neo-natal mortality rates than female. The regions with higher male post-neo-natal mortality rates are Arssi (114 VS. 95.4), Bale (56.8 VS. 54.4), Gamo Goffa (65.8 VS. 62.4), Gondar (46.5 VS. 37), Shewa (48.7 VS. 47.7) and Wollo (28.7 VS. 28.1). In the remaining regions, females have higher post-neo-natal mortality rates than males. As can be seen from Table 4.4, the magnitude of the differences between male and female post-neo-natal mortality rates are very small.

Table 4.4 Neo-natal and Post-neo-natal Mortality Rates by Sex and Region, Rural Ethiopia, 1986/87

Region	Mortality Rates					
	Neo-natal			Post-neo-natal		
	Male	Female	Both	Male	Female	Both
Arssi	98.2	68.2	84.0	114.0	95.4	105.0
Bale	66.6	49.2	58.2	56.8	54.4	55.7
Gamo Goffa	76.0	60.6	68.4	65.8	62.4	64.2
Gojjam	26.6	30.7	28.6	38.9	43.0	40.9
Gondar	40.7	29.4	35.3	46.5	37.0	41.9
Hararge	58.5	46.6	52.9	44.5	53.6	48.8
Illubabor	37.4	28.8	33.3	43.3	63.7	53.1
Keffa	59.4	42.7	51.1	62.8	65.1	63.9
Shewa	49.6	37.8	43.9	48.7	47.7	48.2
Sidamo	31.0	27.9	29.5	51.1	57.2	54.0
Wellega	34.9	32.0	33.5	34.8	36.3	35.5
Wollo	37.8	27.2	32.7	28.7	28.1	28.4
Total	48.6	38.3	43.8	50.6	51.0	50.8

Finally, comparison of neo-natal and post-neo-natal mortality rates show that the overall post-neo-natal mortality rate is higher than neo-natal mortality rate (50.8 VS. 43.8). This also holds true in the case of males and females, respectively. However, in respect of the regions, this phenomena is not always true. In some regions, the neo-natal mortality rates are higher than post-neo-natal and in others the reverse is the case. Regions with higher neo-natal mortality rates are, Bale (58.2 VS. 55.7), Gamo Goffa (68.4 VS. 64.2), Hararge (52.9 VS. 48.8) and Wollo (32.7 VS. 28.4). In the remaining regions, post-neo-natal mortality rates are higher than neo-natal mortality rates. This also holds true in the case of males and females, except in few regions (see Table 4.4).

e) Contribution of Neo-natal and Post-neo-natal Deaths to Total Infant Deaths

The percentage distribution of neo-natal and post-neo-natal deaths to total infant deaths show that while the post-neo-natal deaths account for 53.8 percent, the neo-natal deaths account for only 46.2 percent of infant deaths (see Table 4.5). Figures given in Table 4.5 indicate that the post-neo-natal deaths in most regions contribute above 50 percent of the infant deaths. Correspondingly, except in few regions (Bale, Gamo Goffa, Hararge and Wollo), the neo-natal deaths contribute less than 50 percent of the total infant deaths in most of the regions. The same phenomena holds in respect of male and female neo-natal and post-neo-natal deaths, both in the case of overall and by region (see Table 4.5). In Bale, Gamo Goffa, Hararge and Wollo the neonatal deaths contribute more than the post-neo-natal deaths to the total infant deaths while the post-neo-natal deaths contribute more than the neo-natal deaths to the total infant deaths in the other regions.

f) Percent Distribution of Deaths by Age

Proportion dead varies with age. The percent distribution of deaths by age indicate the relative importance of deaths at each age. Table 4.6 gives the percentage distribution of deaths by broad age groups, sex and region.

From the Table, it can be seen that the neo-natal deaths contribute 11 percent to the total deaths while the post-neo-natal deaths contribute about 13 percent to the total deaths in the rural areas. Deaths of children aged 1-4 years comprise 24.1 percent of the total deaths in the whole rural areas under investigation.

On the other hand, deaths to children aged 10-14 years constitute about 3 percent of the total deaths, which is the smallest number of deaths in all age groups. The second highest percentage of deaths (21.4) occurred to persons aged 50 years and above. Thus, the distribution of deaths by age shows a bimodal pattern. The pattern of the distribution of deaths by age for both males and females are similar to the pattern described above for both sexes.

Table 4.5 Percentage Contribution of Neo-natal and Post-neo-natal Deaths To Total Infant Deaths by Sex and Region, Rural Ethiopia, 1986/87

Region	Neo-natal			Post-neo-natal		
	Male	Female	Both	Male	Female	Both
Arssi	46.3	41.9	44.4	53.7	58.1	55.6
Bale	54.0	47.5	51.1	46.0	52.5	48.9
Gamo Goffa	53.6	49.2	51.6	46.4	50.8	48.4
Gojjam	40.6	41.7	41.1	59.4	48.3	58.9
Gondar	46.7	44.2	45.7	53.3	55.8	54.3
Hararge	56.8	46.5	52.0	43.2	53.5	48.0
Illubabor	46.3	31.1	38.5	53.7	68.9	61.5
Keffa	48.6	39.6	44.4	51.4	60.4	55.6
Shewa	50.5	44.2	47.7	49.5	55.8	52.3
Sidamo	37.8	32.8	35.3	62.2	67.2	64.7
Wellega	50.1	46.9	48.5	49.9	53.1	51.5
Wollo	56.8	49.2	53.5	43.2	50.8	46.5
Total	49.0	42.9	46.2	51.0	57.1	53.8

Table 4.6 Percentage Distribution of Deaths by Broad Age Group, Sex and Region, Rural Ethiopia, 1986/87

Region	Sex	Age Group						
		< a month	1-12 months	1-4	5-9	10-14	15-49	50+
Arssi	M	19.4	22.5	25.2	7.8	2.3	9.4	12.7
	F	12.9	17.8	29.3	9.7	2.9	12.9	13.9
	T	16.1	20.2	27.2	8.8	2.6	11.1	13.3
Bale	M	20.8	17.7	18.4	4.5	4.4	11.3	19.4
	F	14.7	16.2	16.4	5.9	5.7	16.9	22.4
	T	17.8	17.0	17.4	5.2	5.0	14.1	20.7
Gamo Goffa	M	16.7	14.5	24.6	6.8	4.9	15.0	16.0
	F	13.3	13.7	23.9	7.7	4.3	19.3	15.6
	T	15.0	14.1	24.3	7.3	4.6	17.1	15.8
Gojjam	M	7.1	10.3	26.7	10.4	4.1	15.6	20.6
	F	7.2	10.1	28.0	10.0	3.6	17.6	19.1
	T	7.1	10.2	27.4	10.2	3.9	16.6	19.8
Gondar	M	11.7	13.4	27.1	10.5	2.8	11.4	18.7
	F	9.0	11.3	32.3	9.5	2.4	16.9	15.9
	T	10.5	12.4	29.5	10.0	2.6	14.0	17.4
Hararge	M	11.0	8.4	35.4	9.4	3.7	13.9	16.8
	F	7.8	9.0	40.1	11.2	3.6	15.2	12.0
	T	9.4	8.7	37.8	10.3	3.6	14.6	14.4
Illubabor	M	6.9	8.0	17.4	13.4	4.5	18.9	29.9
	F	4.5	10.3	14.6	10.0	3.3	21.8	34.9
	T	5.8	9.2	15.9	11.6	3.9	20.4	32.5
Keffa	M	11.4	12.1	20.9	9.2	2.8	20.7	21.0
	F	9.0	13.7	23.5	7.7	2.4	22.6	19.1
	T	10.3	12.9	22.1	8.5	2.6	21.6	20.1
Shewa	M	14.9	14.6	20.2	7.2	3.1	13.3	24.8
	F	11.2	14.2	22.6	7.1	2.4	16.7	24.3
	T	8.6	15.8	19.2	8.5	3.0	20.1	22.2

Table 4.6 Contd.

Region	Sex	Age Group						
		< a month	1-12 months	1-4	5-9	10-14	15-49	50+
Wellega	M	7.4	7.4	17.1	7.9	3.0	21.4	34.2
	F	6.6	7.5	15.0	7.8	2.1	25.1	34.6
	T	7.0	7.4	16.6	7.8	2.5	23.3	34.4
Wollo	M	16.8	12.8	18.3	5.1	6.0	14.7	22.2
	F	12.0	12.4	17.0	7.7	2.3	20.8	26.0
	T	14.5	12.6	17.7	6.3	4.2	17.6	24.1
Total	M	12.4	12.9	23.1	8.4	3.4	15.5	21.8
	F	9.5	12.6	25.2	8.7	2.9	18.3	21.0
	T	11.0	12.8	24.1	8.5	3.2	16.9	21.4

NB. Horizontal percentages do not add up to 100 because of the omission of the 'not stated' cases.

To the extent that deaths at each age are assumed to have the same percent net reporting error, proportions of deaths are valid for comparison among the different regions. Hence, although the aforementioned bimodal pattern of the distribution of deaths by age holds for every region, there is a considerable variation in the age at which the proportion of deaths is at a peak. In 6 out of the 12 regions (Arssi, Gamo Goffa, Gojjam, Gondar, Hararge and Keffa), the proportion of deaths is at a peak at age 0-4 years. In the remaining 6 regions, the proportion of deaths is at a peak at age 50 years and above (see Table 4.6). On the other hand, in every region, the lowest proportion of deaths is observed in age group 10-14 years. Similar patterns hold for both males and females in every region.

g. Sex-ratio at Death

Death varies not only by age but also by sex. The sex-ratio at death relates the number of male and female deaths in the same population and in the same age group and, therefore, measures the numerical balance between the deceased by sex. The former sex-ratio at death gives the general sex-ratio at death and the later gives the age-specific sex-ratios at death. Both ratios are given in Table 4.7.

The general sex-ratio at death for the whole rural areas indicates higher male mortality than female. The ratio is 103.5 male deaths per 100 female deaths. At regional level, in 9 out of the total 12 regions (Bale, Gamo Goffa, Gondar, Keffa, Shewa, Sidamo, Wellega, Hararge and Wollo), male mortality rate is higher than the female. Among these 9 regions, the highest male mortality rate than female is observed in Gondar (sex-ratio = 114.6) followed by Keffa (sex-ratio = 111.1). In the remaining 3 regions, the sex-ratio at death varies between 94 (Gojjam) and 100 (Arssi).

The figures for the age-specific sex-ratios at death indicate more male neo-natal deaths than female ; the Sex-ratio being 135.9. Similarly, more male than female deaths were observed in age group 10-14 years (sex - ratio = 122.1) followed by post-neo-natal deaths (sex - ratio = 106.2) and age group 50 years and above (sex - ratio = 107.6) (see Table 4.7). The excess of male mortality over female mortality in these age groups is also depicted by Figure 4.1. The figure also indicates the excess of female mortality over male mortality between age groups 15-19 and 40-44 years. However, it should be borne in mind that some of these variations may be due to reporting errors by the respondents rather than variations in actual deaths.

At regional level, however, there is a substantial variation in ages in which differences between male and female deaths are observed. Pertaining to the neo-natal deaths, in every region, except in Gojjam, there is quite a large excess of male over female deaths. The sex-ratio with respect to the neo-natal deaths range between 113 (Wellega) and 151 (Arssi) male deaths per 100 female deaths. In respect of the post-neo-natal deaths, in Arssi, Bale, Gamo Goffa, Gondar, Shewa and Wollo, again males dominate females. The sex ratio at death for these groups of regions varies between 109.5 (Wollo) and 135.7 (Gondar).

Fig 4.1 Sex-Ratio At Death By Age, 12 Regions, Rural Ethiopia, 1986/87

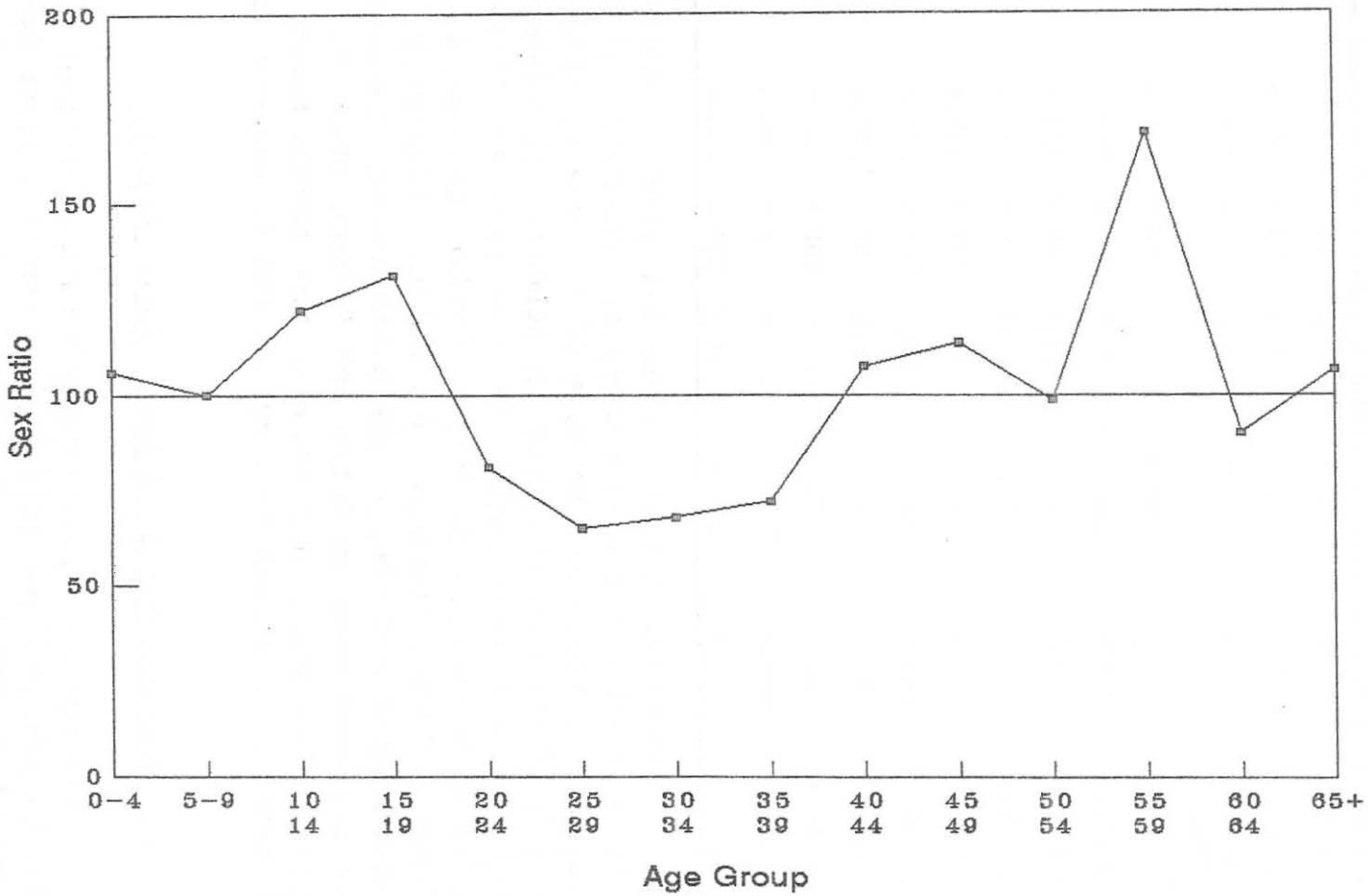


Table 4.7 Age Specific Sex-ratios at Death by Age and Region, Rural Ethiopia, 1986/87

Region	Age Group							
	< a Month	1-12 months	1-4	5-9	10-14	15-49	50+	Total
Arssi	151.1	126.5	85.8	80.1	79.3	72.3	91.4	100.0
Bale	145.3	112.1	115.1	77.9	790.9	69.1	90.7	102.9
Gamo Goffa	130.3	109.5	106.5	90.3	119.1	80.7	106.4	103.5
Gojjam	91.7	95.9	89.5	98.4	107.0	83.5	101.1	94.0
Gondar	149.8	135.7	96.5	126.2	133.5	77.5	134.4	114.6
Hararge	141.7	93.7	88.9	85.0	102.6	89.3	140.8	100.6
Illubabor	140.2	73.2	111.8	126.4	130.4	81.7	80.5	94.1
Keffa	141.1	98.0	99.2	131.7	125.4	102.0	122.3	111.1
Shewa	142.2	110.4	95.7	109.6	136.2	85.6	108.9	107.1
Sidamo	120.2	96.8	85.8	95.8	114.8	110.3	116.7	104.3
Wellega	113.2	99.5	108.6	102.1	145.0	86.5	99.9	101.3
Wollo	149.1	109.5	115.2	70.5	273.7	75.0	90.7	106.4
Total	135.9	106.2	94.7	100.1	122.1	87.7	107.6	103.5

Concerning children aged 1-4 years, excess of male over female deaths is observed in Bale, Gamo Goffa, Illubabor, Wellega and Wollo; while in the case of 5-9 years, excess of male over female deaths is observed in Gondar, Illubabor, Keffa, Shewa, Wellega and Gamo Goffa. In the case of 10-14 years, males predominate females in Gojjam, Gondar, Hararge, Illubabor, Keffa, Shewa, Sidamo, Wellega, and Wollo. Similarly, in respect of adults aged 15-49 years, the dominance of male over female deaths is observed only in Keffa and Sidamo; while for the older age groups (50 years and above), the predominance of males over females is observed in 7 out of the 12 regions (see Table 4.7).

h) Age-sex Specific Death Rates (ASSDR)

The age-sex specific death rate is defined as the number of deaths per year per 1000 population of a given age group and sex (Kpedekpo, 1982). Differences in risks of deaths are related to age and sex and hence the age-sex specific death rates reduce the effects of this diversity in the death rates.

Table 4.8 gives the ASSDR for the rural areas by region and Figure 4.3 depicts the rates by age groups for the total rural areas of the 12 regions under consideration. The figure in the table suggest that the level of mortality among children aged under 1 year is very high. Because of the relatively great magnitude of the death rates among infants, separate rates are given for the age group under 1 and 1-4 years. Mortality rate for children under 1 year of age for the whole rural areas is found to be 112.2 per 1000 infant population under 1 year. The rate is higher for males (114.9) than for females (109.2). Next to infants, a relatively high level of mortality is found among those aged 60 years and over (38.7) followed by children aged 1-4 years (24.0). On the other extreme, the lowest level of mortality is found among children aged 10-14 years (3.4) followed by those aged 15-19 years (3.7). The rates are higher for females than for males in age groups 1-4, 5-9, 20-24, 25-29, 30-34, 35-39 and 60 years and over. Whereas the reverse is true for age groups 10-14, 15-19, 40-44, 45-49, 50-54 and 55-59 years.

The afore-mentioned case is clearly revealed by Figure 4.2. The Figure depicts that the elimination of individual lives by death are rapid in infancy, slows down during childhood through adolescence and middle ages and rises rapidly in old ages (50 years and above). The graph shows a 'U' pattern with the lowest mortality rates occurring in the age groups 10-44 years.

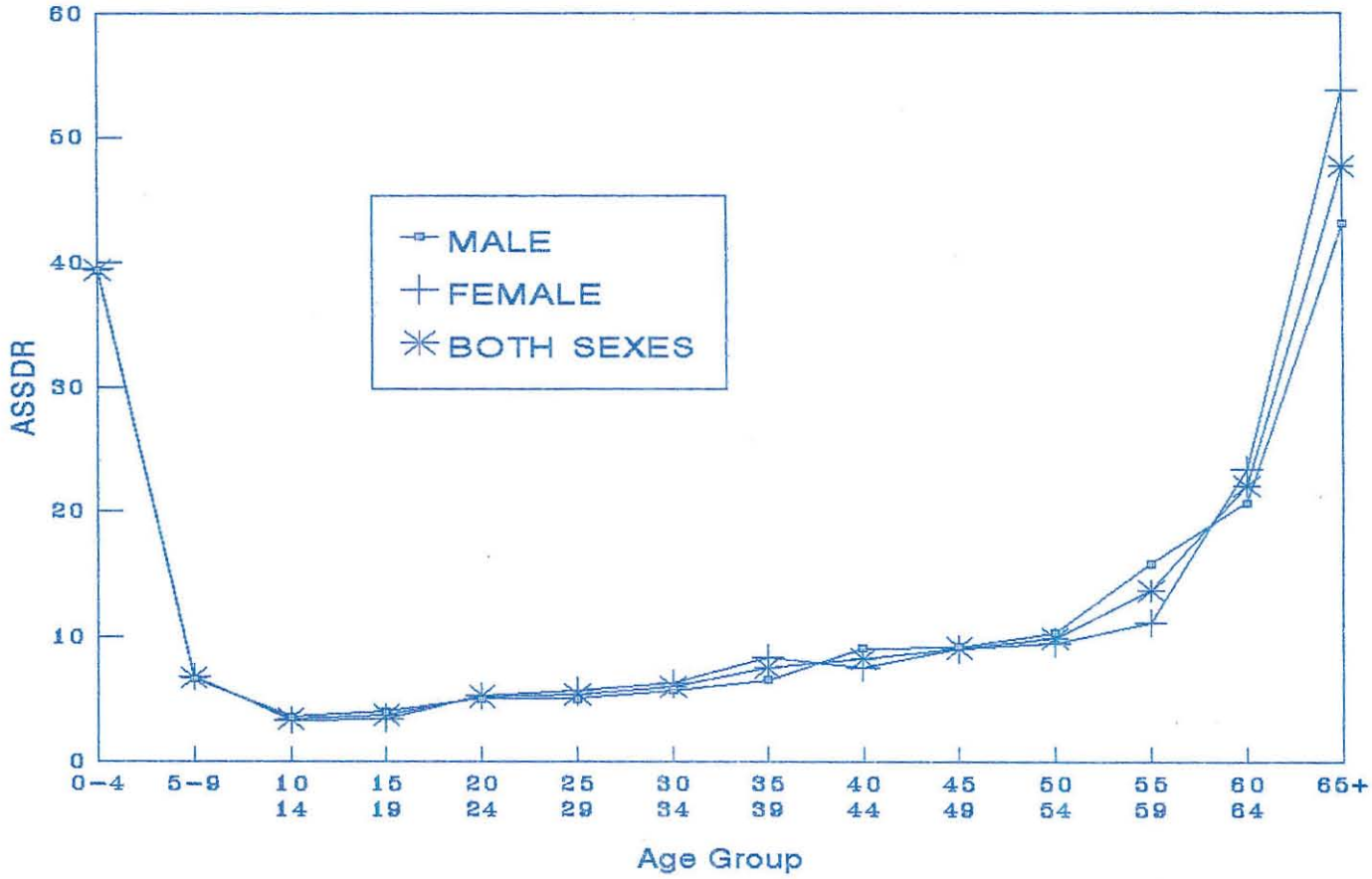
Table 4.8 Age-Sex Specific Death Rates By Region, Rural Ethiopia, 1986/87

Region	Sex	0	1-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60 +	Total
Arssi	M	135.0	24.2	8.2	3.3	2.7	4.5	9.4	5.1	3.2	10.1	7.3	7.2	8.8	33.4	18.6
	F	199.7	38.7	10.3	5.0	4.4	12.0	6.4	6.0	9.9	5.3	8.7	8.3	16.4	45.7	21.4
	T	156.4	30.3	9.2	4.0	3.3	8.2	7.6	5.6	6.9	7.5	8.0	7.8	12.2	40.6	19.9
Bale	M	140.5	15.0	3.0	4.2	3.2	9.3	3.4	4.7	5.2	7.2	4.5	4.9	5.1	30.8	13.9
	F	112.7	12.8	3.8	6.1	4.2	4.1	6.1	7.2	3.3	8.3	8.6	5.7	8.5	39.6	12.8
	T	126.7	13.9	3.4	5.1	3.7	6.4	5.1	3.8	4.1	7.9	6.5	5.3	6.7	34.8	13.3
Gamo Goffa	M	154.8	32.4	7.1	6.6	5.0	3.8	6.7	9.0	3.7	9.7	13.6	12.6	18.0	40.8	18.3
	F	119.7	29.0	8.4	6.2	7.1	2.4	7.4	9.8	7.7	10.1	10.7	11.7	20.4	49.9	17.4
	T	136.6	30.6	7.7	6.4	6.0	3.0	7.1	9.5	5.8	9.9	12.3	12.2	19.1	44.7	17.9
Gojjam	M	67.2	22.8	7.2	4.0	3.1	4.2	4.0	4.6	6.0	8.9	7.4	9.9	12.8	35.0	12.6
	F	75.0	25.5	7.6	4.6	2.8	4.9	4.3	6.4	8.5	7.4	8.9	9.3	20.0	41.7	13.5
	T	71.0	24.2	7.4	4.3	3.0	4.6	4.2	5.6	7.2	8.1	8.1	9.6	15.8	38.0	13.0
Gondar	M	98.1	25.7	8.1	2.7	3.1	1.8	4.2	4.9	2.8	4.5	4.3	6.3	7.6	34.0	13.4
	F	73.8	27.3	6.7	2.3	3.1	4.3	6.0	6.4	5.7	5.8	5.0	2.3	3.5	38.1	12.3
	T	86.3	26.5	7.4	2.5	3.1	3.1	5.1	5.7	4.2	5.2	6.9	4.4	6.0	35.7	12.9
Hararge	M	112.2	49.2	10.6	5.1	4.4	6.5	7.3	4.9	8.2	13.2	8.9	24.3	24.8	48.0	20.4
	F	106.7	58.2	13.3	5.6	5.7	3.6	10.7	9.5	6.6	13.0	2.0	16.6	6.0	44.0	20.9
	T	109.6	53.6	11.9	5.4	5.0	4.9	9.3	7.4	7.4	13.1	5.8	20.3	15.5	46.2	20.6
Illubabor	M	91.1	21.2	12.4	5.9	6.3	7.9	5.0	7.1	10.8	13.1	7.9	10.1	32.6	40.9	16.3
	F	114.7	19.7	9.8	5.1	3.9	5.6	14.4	2.4	12.2	14.5	12.9	24.6	5.4	59.1	17.3
	T	101.9	20.5	11.1	5.5	5.3	6.7	10.4	4.4	11.5	13.9	10.4	17.8	20.2	49.8	16.8

Table 4.8 ontd.

Region	Sex	0	1-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60 +	Total
Keffa	M	177.4	34.0	10.8	4.7	12.7	10.9	6.3	13.0	12.5	18.2	13.3	18.5	26.8	55.3	22.9
	F	154.6	33.7	8.5	4.5	5.8	9.3	9.7	6.1	15.4	9.6	22.3	12.3	12.0	54.6	19.8
	T	166.0	33.8	9.7	4.6	9.6	10.1	8.4	8.9	14.1	13.6	17.5	15.1	19.2	55.0	21.3
Shewa	M	116.1	19.3	4.9	2.8	2.7	4.3	5.3	4.8	4.7	5.0	7.5	8.9	15.4	32.3	12.7
	F	102.6	20.3	4.5	2.2	2.4	4.5	2.6	4.9	8.1	5.3	8.7	9.6	11.6	37.2	11.7
	T	109.7	19.8	4.7	2.5	2.6	4.4	3.7	4.9	6.5	5.2	8.1	9.3	13.6	35.6	12.2
Sidamo	M	67.9	11.0	4.2	2.1	3.4	4.3	4.2	4.0	8.1	8.0	9.7	7.0	12.1	31.3	9.6
	F	85.9	14.4	4.6	2.1	1.9	3.9	4.2	7.4	4.7	3.8	5.6	7.9	13.8	45.1	9.6
	T	75.7	12.6	4.4	2.1	2.8	4.1	4.2	6.4	6.2	5.7	7.7	7.4	12.8	36.3	9.6
Wellega	M	70.1	18.1	6.2	2.9	5.2	6.4	4.4	8.1	9.3	16.0	15.2	134.1	34.6	46.1	14.2
	F	64.7	16.9	6.3	2.1	3.9	10.9	4.8	6.9	15.2	12.9	10.6	6.7	7.7	61.4	13.7
	T	67.3	17.5	6.3	2.5	4.5	8.8	4.6	7.4	12.4	14.4	13.0	9.2	21.9	53.4	13.9
Wollo	M	93.6	17.8	3.1	4.3	2.4	4.5	1.1	2.8	5.2	4.5	8.6	4.4	4.5	18.4	10.0
	F	75.5	15.5	4.3	1.8	2.5	2.7	5.0	4.4	3.9	5.8	9.0	5.9	7.0	20.3	9.1
	T	84.7	16.7	3.7	3.2	2.4	3.6	3.2	3.7	4.5	5.3	8.8	5.2	5.7	19.3	9.5
Total	M	114.9	22.8	6.3	3.6	4.0	5.0	5.0	5.7	6.5	9.1	9.2	10.3	15.8	35.8	14.3
	F	109.2	25.3	6.8	3.3	3.4	5.3	5.8	6.3	8.3	7.5	9.0	9.5	11.1	42.2	13.9
	T	112.2	24.0	6.7	3.4	3.7	5.2	5.4	6.0	7.5	8.2	9.1	9.9	13.7	38.7	14.1

Figure 4.2 Age-sex Specific Death Rates, 12 Regions, Rural Ethiopia, 1986/87



Comparison of ASSDR by region shows that, although, the pattern of mortality by age in each region is similar to that described for the total rural areas, there is a wide variation in the magnitudes of the rates in each age group among the regions.

The level of mortality among infants aged under 1 year is relatively very high in every region. However, there is a wide variation in the magnitude of the rates. The highest rate is found in Keffa (166.0) followed by Arssi (156.4), Gamo Goffa (136.6) and Bale (126.7). The lowest rate is found in Wellega (67.3) followed by Gojjam (71.0) and Sidamo (75.7). The difference between the highest and the lowest rate turns out to be about 100, indicating the magnitude of the difference in the level of mortality of infants under 1 year among the different regions (see Table 4.8).

Among other age groups, the rates are relatively highest for adults aged 60 years and above in every region except Hararge where the rate for the age group 1-4 is higher than the rate for age group 60 and over. On the other extreme, the age groups in which the lowest mortality occurred vary from region to region. In Bale, the lowest mortality is observed in age group 5-9, while is Gondar, Keffa, Shewa, Sidamo and Wellega, this age group happens to be 10-14 years. Similarly, in Arssi, Gojjam and Gondar age group 15-19; in Gamo Goffa and Hararge age group 20-24 years; and in Illubabor age group 30-34 indicated the lowest mortality.

Moreover, there is a wide difference in the level of mortality among the sexes in every region. Among infants, the level of mortality is higher for males than for females in 8 out of the 12 regions; while among those aged 60 years and above, the level of mortality is higher for females than males in 10 out of the 12 regions; the two regions being Hararge and Keffa where the level is higher for males than females (see Table 4.8).

i) Mortality According to Life Table

An attempt was made to construct an abridged life table on the basis of a set of observed age specific central death rates using LIFTB (UN software which is used to construct a Life Table) procedure (UN, 1988). However, the mortality rates based on the observed age specific death rates or more specifically probabilities of dying at older ages calculated by the LIFTB

procedure did not increase monotonically as expected due to age misreporting and under reporting of death at older ages. Hence, the set of observed age specific probabilities of dying calculated by the LIFTB procedure were graduated (fitted) using UNABR (UN software which is used to graduate nQx values) procedure (UN, 1988) producing a smooth set of n^qx values. The mortality probabilities in age groups are graduated by use of an eight-parameter formula for the age curve of mortality. Then, these age specific probabilities of dying which were fitted by the UNABR procedure were applied to construct the graduated abridged life tables using the LIFTB procedure. Tables 4.9 and 4.10 give the graduated abridged life Tables for the total rural males and females of the 12 region under consideration while Table 4.11 gives the expectation of life at birth, age 1, age 65 and the probabilities of surviving from birth to age 65 for each region.

According to the graduated abridged life tables, expectations of life at birth for the rural areas under consideration were 54.4 for males and 52.9 for females. The probabilities of surviving from birth to age 65 were .471 for both sexes (see Table 4.9-4.11). The mortality rates indicate that the expectation of life for males are higher than for females at birth.

Comparison of the expectations of life at birth obtained by ESVRS with those obtained by the census of 1984 indicate that the census expectations of life are quite high. The census expectations of life at birth were 62.1 for rural males and 65.7 for rural females (CSA, 1991). The census expectations of life also indicate that the expectations of life are higher for females than for males while the reverse is the case in the case of the expectations of life obtained by ESVRS.

Table 4.9 Abridged Life Table For Males, 12 Regions, Rural Ethiopia,1986/87.

Age	n^mx	n^qx	l_x	n^dx	n^Lx	n^Sx	T_x	e_x	n_ax
0	.11451	.10635	100000	10635	92875	.85917/A/	5439949	54.399	0.330
1	.02327	.08768	89365	7836	336712	.93438/B/	5347075	59.834	1.352
5	.00623	.03066	81529	2500	401398	.97516	5010363	61.455	2.500
10	.00380	.01883	79030	1488	391429	.98113	4608965	58.319	2.500
15	.00386	.01912	7542	1483	384041	.97950	4217536	54.391	2.526
20	.00448	.02218	76059	1687	376168	.97607	3833496	50.402	2.553
25	.00522	.02575	74372	1915	367166	.97244	3457328	46.487	2.549
30	.00597	.02942	72457	2132	357047	.96863	3090162	42.648	2.543
35	.00680	.03344	70325	2352	345846	.96421	2733115	38.864	2.542
40	.00782	.03838	67974	2609	333469	.95847	2387268	35.121	2.547
45	.00922	.04509	65365	2947	319622	.95043	2053799	31.421	2.556
50	.01124	.05471	62417	3415	303779	.93877	1734178	27.784	2.567
55	.01423	.06876	59003	4057	285179	.92172	1430399	24.243	2.576
60	.01867	.08932	54946	4908	262855	.89693	1145220	20.843	2.581
65	.02527	.11906	50038	5958	235762	.86144	882364	17.634	2.578
70	.03502	.16133	44080	7111	203095	.81175	646602	14.669	2.566
75	.04930	.21987	36969	8128	164863	.74426	443507	11.997	2.542
80	.07005	.29803	28841	8595	122702	.55965/C/	278644	9.662	2.499
85	.12982	.....	20245	20245	155943	.....	155943	7.703	7.703

/A/ VALUE GIVEN IS FOR SURVIVORSHIP OF 5 COHORTS OF BIRTH TO AGE GROUP 0-4 = L(0,5)/50000
/B/ VALUE GIVEN IS FOR S(0,5) = L(5,5)/L(0,5)
/C/ VALUE GIVEN IS S(80+,5)= T(85)/T(80)

Definition of Columns

n^mx : Central death for the age interval (x,x+5)
n^qx : Probability of individual age x dying before the end of the age interval (x,x+5)
l^x : Number of Survivors at age x in a life table with radix of 100,000 persons
n^dx : Number of deaths in age interval (x,x+5)
n^Lx : Number of person-years lived in age interval (x, x+5)
n^Sx : The proportion of life table population in age group (x, x+5) who are alive 5 years later
T_x : Number of person-years lived at ages x and older
e_x : Expectation of life at age x
n^ax : Average number of years lived in the age interval (x, x+5) by those dying during that age interval

Table 4.10 Abridged Life Table For Females, 12 Regions, Rural Ethiopia, 1986/87.

Age	n^mx	n^qx	l_x	n^dx	n^Lx	n^Sx	T_x	e_x	n^ax
0	.10912	.10189	100000	10189	93377	.86001/A/	5292873	52.929	0.350
1	.02546	.09543	89811	8571	336626	.92909/B/	5199496	57.894	1.361
5	.00670	.03293	81240	2677	399510	.97514	4862870	59.858	2.500
10	.00333	.01650	78563	1296	389577	.98341	4463361	56.812	2.500
15	.00346	.01716	77267	1326	383113	.97985	4073784	52.723	2.569
20	.00480	.02375	75941	1804	375392	.97301	3690671	48.599	2.608
25	.00609	.03002	74138	2226	365261	.96794	3315279	44.718	2.561
30	.00686	.03371	71912	2424	353551	.96533	2950018	41.023	2.521
35	.00722	.03545	69488	2463	341293	.96385	2596467	37.366	2.505
40	.00754	.03700	67025	2480	328954	.96151	2253175	33.647	2.512
45	.00826	.04049	64545	2613	316293	.95608	1926221	29.843	2.539
50	.00989	.04830	61931	2991	302402	.94498	1609928	25.995	2.575
55	.01306	.06332	58940	3732	285762	.92488	1307527	22.184	2.605
60	.01868	.08941	55208	4936	264296	.89133	1021765	18.508	2.621
65	.02812	.13178	50272	6625	235575	.83859	757469	15.067	2.618
70	.04350	.19689	43647	8594	197551	.76029	521893	11.957	2.593
75	.06796	.29120	35053	10208	150196	.65195	324342	9.253	2.544
80	.10598	.41766	24846	10377	97920	.43771/C/	174146	7.009	2.465
85	.18981	.....	14469	14469	76226	.....	76226	5.268	5.268

/A/ VALUE GIVEN IS FOR SURVIVORSHIP OF 5 COHORTS OF BIRTH TO AGE GROUP 0-4 = L(0,5)/50000
/B/ VALUE GIVEN IS FOR S(0,5) = L(5,5)/L(0,5)
/C/ VALUE GIVEN IS S(80+,5)= T(85)/T(80)

At regional level, considerable variations in expectations of life at birth, were observed. The highest expectation of life at birth for males (65.7) was observed in Sidamo, and for females (67.6) in Wollo. The lowest expectations of life at birth, for both sexes, were observed in Keffa; 39.8 for males and 46 for females. In the majority of the regions, male expectations of life are higher than female expectations of life.

In general, these expectations of life do not conform to the real socio-economic situations in the rural areas. These phenomena are mainly due to the variations in completeness of the reporting of deaths among the different regions. In particular, regions which have high expectations of life at birth have reportedly low infant mortality rates which is due to under-reporting of infant deaths (see Table 4.3). Likewise, the unusually higher expectations of life for males than for females may possibly be due to the under reporting of male deaths in the registration process.

Table 4.11 Mortality According to Life Table by Sex and Region, Rural Ethiopia, 1986/87.

Region	Expectation of Life at						Probability of Surviving from Birth to age	
	Birth		Age 1		Age 65		65	
	Male	Female	Male	Female	Male	Female	Male	Female
Arssi	55.5	43.6	62.2	51.8	19.8	14.0	.505	.378
Bale	60.0	57.8	67.8	63.8	19.4	16.9	.598	.548
Gamo Goffa	49.5	50.5	56.6	55.7	17.0	15.4	.432	.430
Gojjam	57.4	53.8	60.3	55.5	16.6	16.2	.519	.479
Gondar	57.3	58.4	61.8	61.9	16.5	16.1	.564	.612
Hararge	47.8	48.0	52.6	52.6	19.3	14.8	.375	.473
Illubabor	51.2	52.5	55.0	58.8	16.0	15.9	.407	.492
Keffa	39.8	46.0	46.1	52.3	15.3	14.6	.249	.376
Shewa	57.6	57.0	63.5	62.0	18.0	16.4	.521	.520
Sidamo	65.7	59.3	69.2	63.5	22.6	14.9	.588	.549
Wellega	55.3	57.2	59.3	59.8	19.0	13.8	.418	.541
Wollo	57.5	67.6	64.4	71.7	16.2	25.1	.533	.625
Total	54.4	52.9	59.8	57.9	17.6	15.1	.471	.471

4.3 Seasonality of Deaths

Information on dates of occurrence of deaths in months, days and years were obtained during the registration process. This information has enabled the study of seasonality of deaths. Seasonality of death allows one to examine seasonality variation in the occurrence of deaths. Because of this, seasonality indices were calculated for each month and region. In the computation of the indexes, it is assumed that deaths are evenly distributed over the 12 months. In other words, it is assumed that the chance of a death to occur in any one of the 12 months of the year is equal. This assumption implies that if there is no seasonal variations, the index is expected to be 1 (or 100 if multiplied by 100). The results of these computations and the percentages of deaths in each month are presented in Table 4.12. Table 1.2 of Chapter I gives the Ethiopian and the corresponding Gregorian months in a year.

The figures for seasonality index (SI) as well as the percentage of deaths in each month suggest that there is a considerable seasonal variation in the occurrence of deaths. For the rural area as a whole, both the seasonal index and the percentage of deaths in each month show the highest peak at the month of Ginbot (SI= 132.2), followed by the month of (Sene SI= 121.4),Hamle (SI= 117.6) and Megabit (SI= 114.1). On the other extreme, the occurrence of deaths are relatively lowest in the months of Meskerem (SI= 75.4) and Tahsas (SI= 83.3). In the rest of the months, the indices vary between 84.9 and 106.6 (see also Figure 4.3). The observed high frequency of deaths in the months of Ginbot, Sene and Hamle may be explained by the fact that these three months are months of rainy season in which the spread of malaria and other diseases are more frequent and communication is practically closed and medical facilities and food are scarce in the rural areas.

Months in which the frequency of the occurrence of death is at its peak and lowest varies from region to region. In Bale and Arssi deaths are more frequent in the month of Miazia and less likely to occur in the month of Meskerem. Similarly, in Gondar, Keffa, Shewa and Sidamo the frequency of the occurrence of death is at its peak in the month of Ginbot while it is at its lowest in the months of Hidar, Tikimt and Meskerem, respectively. In Gamo Goffa, Gojjam, Hararge, Illubabor, Wellega and Wollo the occurrence of death is more frequent in the months of Tikimt, Sene, Hidar, Hamle and Megabit and less frequent in the months of Meskerem, Tahsas, Miazia and Tir, respectively.

Table 4.12 Percentage and Seasonality Index Distribution of Deaths By Month and Region, Rural, Ethiopia 1986/87.

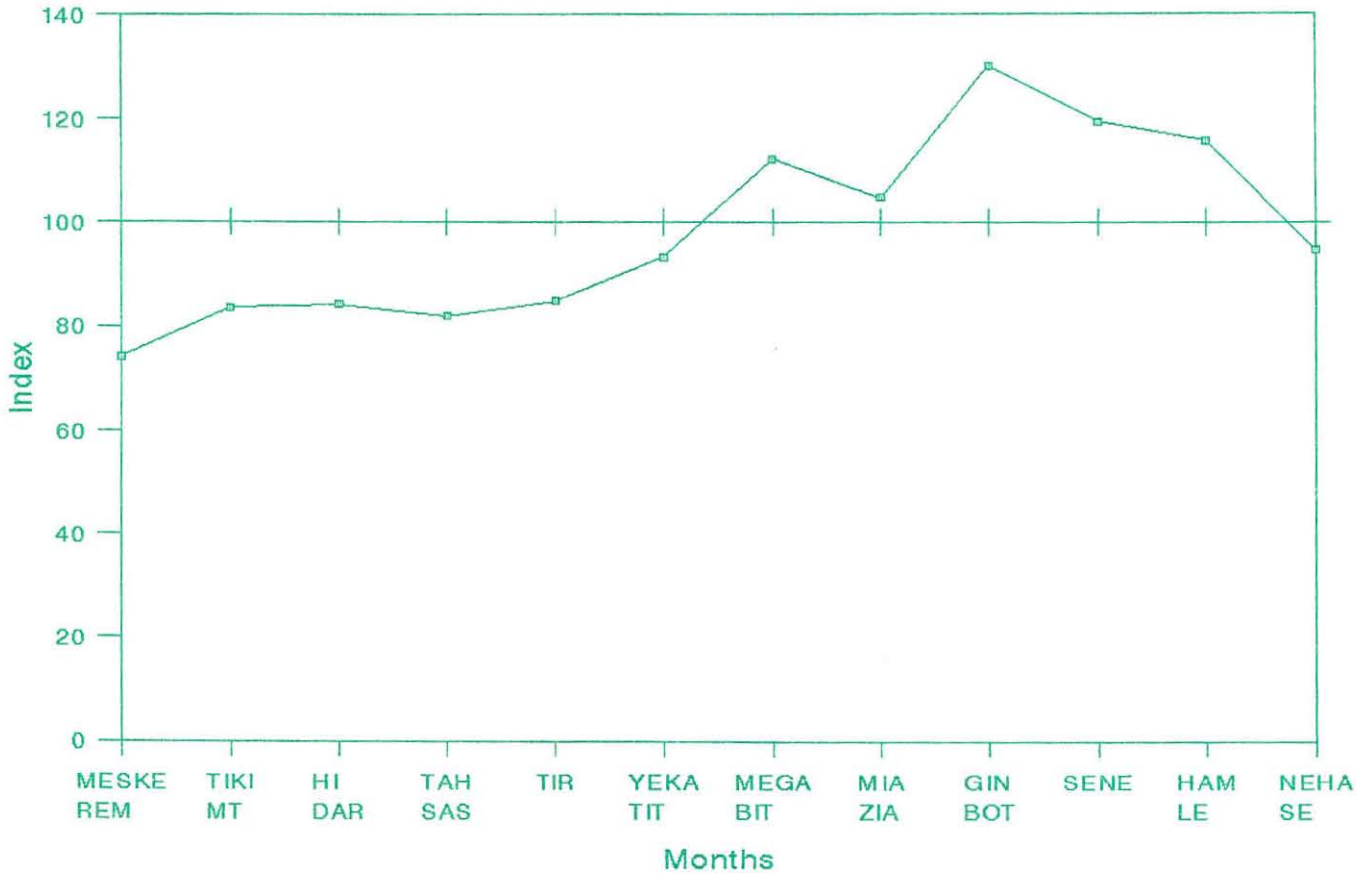
Region	% & S.I[2/]	Month of Death[1/]												Total	
		Meskerem	Tikmt	Hidar	Tahsas	Tir	Yekatit	Megabit	Miazia	Ginbot	Sene	Hamle	Nehase	%	No
Assi	%	4.7	6.2	6.5	5.3	6.6	7.8	10.8	11.6	10.0	10.1	9.5	9.9	100	35,165
	SI	56.3	74.2	77.7	64.2	78.8	93.6	130.6	138.9	131.7	121.2	113.9	118.9		
Bale	%	5.5	6.4	6.9	7.3	9.1	9.3	12.4	12.1	8.7	8.0	7.2	6.8	100	9,049
	SI	66.0	76.6	82.9	87.7	108.6	111.1	149.2	149.5	103.0	96.0	86.3	82.1		
Gamo Goffa	%	5.9	10.8	7.4	7.8	6.7	9.6	8.7	8.5	9.5	8.8	8.0	8.3	100	20,320
	SI	71.0	130.2	88.6	94.0	80.8	115.5	104.1	102.2	114.0	105.4	95.8	98.5		
Gojjam	%	4.9	7.8	8.0	8.0	7.8	7.4	9.7	8.3	10.3	11.0	9.7	7.1	100	42,242
	SI	58.9	93.7	95.8	96.2	93.9	88.4	117.	99.5	123.6	131.6	116.7	85.2		
Gondar	%	7.3	7.5	5.8	7.0	6.4	7.6	9.8	7.5	11.1	11.0	10.0	9.0	100	24,188
	SI	87.5	89.7	70.0	84.2	76.4	91.6	118.1	89.8	133.2	131.7	119.6	108.1		
Hararge	%	7.1	5.7	5.1	4.4	6.7	8.1	8.3	10.5	11.6	12.1	12.4	7.8	100	54,053
	SI	85.2	68.9	61.2	53.1	80.5	96.7	99.1	125.6	139.6	148.9	148.4	93.0		
Illubabor	%	8.7	9.9	13.5	7.0	7.1	9.0	7.2	6.5	10.0	6.9	6.7	7.5	110	16,575
	SI	104.0	119.3	162.0	84.2	85.6	107.9	86.8	77.5	120.3	83.2	80.7	88.5		
Keffa	%	7.0	6.3	7.9	9.0	7.5	7.3	9.1	8.5	12.3	9.4	9.2	6.5	100	42,188
	SI	83.8	75.1	95.1	108.1	89.5	88.1	109.7	101.9	147.1	112.4	110.9	78.3		
Shewa	%	6.3	6.2	6.5	6.8	6.9	7.8	9.6	8.5	10.9	10.6	9.5	10.4	100	86,772
	SI	76.0	74.1	78.2	81.9	82.8	94.1	113.8	101.9	130.7	127.8	114.5	124.2		

Region	% & S.I[2/]	Month of Death[1/]												Total	
		Meskerem	Tikmt	Hidar	Tahsas	Tir	Yekatit	Megabit	Miazia	Ginbot	Sene	Hamle	Nehase	%	No
Sidamo	%	4.3	6.7	6.6	7.0	9.2	7.5	11.2	9.2	13.1	10.4	8.4	6.4	100	36,973
	SI	51.4	80.4	79.4	84.3	109.9	90.3	134.3	110.9	157.4	125.0	99.9	76.8		
Wellega	%	7.4	7.7	8.5	8.1	7.4	8.0	8.3	6.9	9.8	8.0	12.5	7.4	100	35,574
	SI	89.3	92.3	101.9	97.6	89.1	96.1	99.7	82.5	117.1	95.9	150.3	88.1		
Wollo	%	7.2	9.2	7.4	6.9	5.7	7.9	10.8	8.9	10.6	8.7	9.3	7.4	100	22,743
	SI	86.2	110.8	89.4	82.9	68.4	95.2	129.2	107.2	127.0	104.7	111.1	87.9		
Total	%	6.3	7.1	7.1	6.9	7.2	7.9	9.5	8.9	11.0	10.1	9.8	8.2	100	425,842
	SI	75.4	84.9	85.5	83.3	86.2	94.9	114.1	106.6	132.2	121.4	117.6	97.9		

1/ Does not include Pagume and Not Stated.

2/ Seasonality Index= (Observed Number of Deaths/Expected Number of Deaths) 100
Expected Number of Deaths= M X N/360 M=Total Number of Deaths in a year.
n=Number of Days in a Month, which in this case is 30 and 360=Number of Days in a Year

Figure 4.3 Seasonality Index Of Death, 12 Regions Rural Ethiopia, 1986/87



4.4 Cause of Death

Mortality by cause of death is analyzed in terms of death rates specific for cause. A cause specific death rate is defined as the number of deaths for a given cause or group of causes during a year per 100,000 population. Two sets of cause specific death rates are presented in this section. The first is cause specific death rate by sex and region (Table 4.13). The second is cause specific death rate by sex and age for the 12 regions as a whole (Table 4.14). The former is based on the population of each region while the latter is based on the population of each age group under consideration.

Considering the figures in Table 4.13, the rate of death due to cough (whooping cough, tuberculosis, pneumonia and other cough) is the highest (349) followed by 'other causes' (277.4), diarrhea and other abdominal diseases (244) and fever (233.7). 'Other causes' of death include malnutrition, tetanus, mental disturbance and others. Diarrhea and abdominal diseases include diahrrea, due to gastro intrites, parasites and other stomach diseases. Death due to fever is caused by such diseases as malaria, measles, jeondus or hepatitus infection, mininjitus, typhus and others. On the other extreme, death due to poisoning is a rare phenomena in the rural areas. Rate of deaths due to venereal diseases, skin diseases, maternal health problem, neck and head diseases, injuries and accidents range between 10.1 and 52.3 per 100,000 population. The same order of importance of causes of deaths also holds sexwise.

There is a considerable variation in the cause of death by region. The rate of death due to cough is the highest in Arssi (607.6), Bale (364.3), Gojjam (448.2), Gondar (366.2), Keffa (725.8) and Sidamo (250.9). Similarly, the rate of death due to fever is the highest in Gamo Goffa (583.3) and Hararge (567.2). In Illubabor, the rate of death due to diarrhea and other abdominal diseases is relatively the highest (331). Finally, the rate of death due to 'other causes' is the highest in Shewa (305.5), Wellega (384.5) and Wollo (271.3). The same order of importance of cause of death also holds for each sex in each region.

Comparison of the relative importance of the cause of deaths by age shows that the rate of death due to cough is the highest among children under 1 year of age (3462.2), 1-4 years (674.7) and adults aged from 15-49 years (133.5). On the other- hand, fever is the most important cause for death for children aged 5-9 years (149.7) while 'other causes' are relatively the most important causes of death for those aged 10-14 years (76.9) and the older

population aged 50 years and above (607.2). The same phenomena also holds for each sex by age. Fever, diarrhea and other abdominal diseases, 'other diseases', neck and head diseases, injuries and accidents contribute highly to the death of infants under one year of age. Maternal health problem, in particular, contributes to the frequency of death of women aged 10 years and over in the rural areas (see Table 4.14).

Table 4.13 Cause Specific Death Rates by Sex and Region, Rural Ethiopia, 1986/87.

Region	Sex	Cause of Death									
		Pioson	Fever	Cough	Dia. & Abdominal Disease	Veneral Disease	Skin Disease	Mat.H. Problem	Neck & Head Diseases	Injuries & Accidents	Others & N.S
Arssi	M	1.6	234.6	545.9	279.1	18.1	5.6		49.0	14.8	261.9
	F	-	238.2	678.5	308.0	11.5	-	29.4	49.4	16.3	299.4
	T	0.9	236.3	607.6	292.5	15.0	3.0		49.2	15.5	279.4
Bale	M	5.1	140.0	386.9	345.2	8.8	3.0	-	31.1	36.9	329.2
	F	4.0	181.6	342.9	280.1	1.7	23.7	43.1	79.1	9.7	243.5
	T	4.5	161.4	364.3	311.7	5.1	13.7		55.8	22.9	285.1
Gamo Goffa	M	7.8	532.1	259.2	390.6	8.1	12.7		167.6	145.5	206.3
	F	12.5	633.9	190.1	338.6	3.6	14.2	56.1	115.7	64.8	220.6
	T	10.2	583.3	224.4	364.4	5.9	13.4		141.5	104.8	213.4
Gojjam	M	2.3	171.0	443.5	138.6	-	6.8		46.4	111.9	254.3
	F	5.3	211.6	452.9	158.4	1.0	5.0	56.4	23.4	66.2	266.8
	T	3.8	191.2	448.2	148.5	0.5	5.9		35.0	89.2	260.6
Gondar	M	-	133.8	381.8	217.9	10.0	11.0		26.9	72.7	355.5
	F	4.7	110.0	349.8	148.9	11.3	29.2	71.1	28.6	37.6	320.6
	T	2.3	122.2	366.2	184.2	10.6	19.9		27.7	55.5	338.4
Hararge	M	4.2	547.6	318.4	436.3	44.6	55.4		15.4	72.8	240.4
	F	-	587.4	387.3	440.8	63.6	52.2	74.9	17.2	50.7	232.2
	T	2.1	567.2	352.3	438.5	54.0	53.8		16.3	61.9	236.4
Illubabor	M	-	338.3	311.7	266.5	-	63.4	-	34.3	117.4	312.4
	F	1.8	250.7	342.9	395.3	-	34.0	80.5	35.6	33.6	243.5
	T	0.9	294.5	327.4	331.0	-	48.7		34.9	75.4	277.9

Table 4.13 Contd.

Region	Sex	Cause of Death									
		Pioson	Fever	Cough	Dia. & Abdominal Disease	Veneral Disease	Skin Disease	Mat.H. Problem	Neck & Head Diseases	Injuries & Accidents	Others & N.S
Keffa	M	21.5	302.7	795.2	469.7	30.3	9.2		35.6	66.5	343.4
	F	5.3	290.2	659.2	394.5	23.0	7.5	79.0	15.4	68.4	233.3
	T	13.3	296.3	725.8	431.3	26.6	8.3		25.3	67.4	287.3
Shewa	M	2.4	200.4	302.9	180.0	6.4	3.4		28.6	68.1	324.6
	F	3.9	208.2	252.7	187.5	1.3	3.5	50.7	14.3	29.4	283.3
	T	3.2	205.4	279.3	184.7	3.9	3.5		21.6	49.0	305.5
Sidamo	M	3.8	169.0	267.8	51.6	4.6	5.9		13.2	48.7	182.7
	F	1.4	216.0	233.4	162.6	-	4.0	51.9	13.7	15.9	179.8
	T	2.6	192.1	250.9	157.0	2.3	5.0		13.5	32.6	181.3
Wellega	M	6.8	111.7	269.7	286.2	4.9	17.2		34.4	55.5	425.2
	F	3.6	72.7	256.4	339.4	-	6.6	46.3	48.1	28.6	344.9
	T	5.2	92.0	263.0	313.1	2.4	11.8		41.3	41.8	384.5
Wollo	M	2.3	91.2	238.6	163.5	8.7	10.0		11.9	50.0	278.5
	F	-	86.0	191.1	139.3	-	11.0	42.0	16.2	11.7	264.5
	T	1.1	88.6	214.5	151.2	4.3	10.5		14.1	30.5	271.3
Total	M	4.3	228.5	360.0	245.5	11.3	13.6		33.8	69.1	291.3
	F	3.2	238.9	337.9	244.6	8.9	12.3	55.4	27.4	35.3	263.3
	T	3.8	233.7	349.0	244.0	10.1	12.9		30.6	52.3	277.4
	M	658	35176	53415	37477	1738	2087	-	5200	10641	44847
	F	497	36517	51635	37388	1362	1878	8466	4189	5411	40244
	T	1155	71693	10705	74865	3100	3965	8466	9389	16052	8509

Table 4.14 Cause Specific Death Rates by Sex and Age, 12 Regions, Rural Ethiopia, 1986/87.

Age Group	Cause of Death										
	Sex	Pioson	Fever	Cough	Dia. & Abdominal Disease	Venereal Disease	Skin Disease	Mat.H. Problem	Neck & Head Diseases	Injuries & Accidents	Other
0	M	5.4	1660.0	3392.5	1595.1	41.0	10.9		231.4	308.8	2185.3
	F	11.2	1880.1	3541.0	1543.7	25.8	62.6		175.8	224.2	1779.8
	T	8.1	1763.3	3462.2	1571.0	33.9	35.2		205.6	269.1	1995
1-4	M	2.3	490.7	647.5	454.1	20.6	16.9		42.7	51.5	398.3
	F	3.8	578.7	703.3	458.5	28.5	36.4		34.4	40.4	472.3
	T	3.1	533.6	674.7	456.3	24.4	26.4		38.7	46.1	434.6
5-9	M	2.8	133.6	149.0	131.6	5.8	8.8	-	30.9	33.7	132.4
	F	1.7	166.4	141.3	134.1	6.1	1.6	-	3.2	28.8	151.4
	T	2.3	149.7	145.2	132.9	5.9	5.3	-	17.2	31.3	141.8
10-14	M	8.4	70.6	52.1	53.3	2.2	7.5	-	15.0	41.4	77.2
	F	1.5	78.2	65.2	47.7	2.0	2.2	2.6	9.6	21.7	76.5
	T	5.2	74.2	58.3	50.7	2.1	5.0		12.5	32.2	76.9
15-49	M	3.8	86.2	142.7	92.1	2.4	7.0		14.6	72.2	25.7
	F	3.2	80.5	125.2	92.3	2.4	3.9	107.3	18.6	23.2	120.0
	T	3.5	83.2	133.5	92.2	2.4	5.4		16.7	46.5	122.6
50+	M	5.3	287.3	511.0	494.9	38.4	45.4		52.1	99.9	625.5
	F	3.8	270.1	440.8	614.7	17.3	30.1	18.5	71.8	36.7	586.9
	T	4.6	279.5	477.8	551.4	28.4	38.2		61.4	70.1	607.2

4.5 Completeness of Death Registration

For the purpose of population analysis and particularly for the population estimates, it is highly desirable to appraise the completeness of death registration. Accordingly, in this section, the completeness of death registration by ESVRS is investigated.

The investigation of the completeness of death registration by ESVRS will be based on some clues as to the possible degree of completeness of reporting of births. The appraisal will be concentrated on the examination of the data itself.

The procedure for the investigation of the possible completeness of death registration includes the examination of the observed sex ratio at death by age, levels and patterns of death rates by age and sex and comparison of the crude death rates (CDRs) obtained by the 1986/87 ESVRS with CDRs obtained by the 1981/82 Demographic Sample Survey (DSS), ESVRS of 1982/83 and the 1984 census of Ethiopia.

a) Observed Sex-ratio at Death

As a general rule, slightly more males than females die in all ages. However, from Table 4.15, it can be seen that the observed sex-ratio at death for the rural areas as a whole fluctuates sharply from one age group to another. This pattern of the sex-ratio at death indicates either incomplete recording of deaths of certain age-sex group or possibly misstatement of age of the deceased. More over , the observed excess of females over males particularly in age groups 20-24 to 35-39 could partly be explained by maternal mortality.This is due to the fact that in the rural areas medical facilities are practically non-available. The same pattern of sex-ratio at death by age holds for almost every region. (see Table 4.7).

Among infants, male deaths almost invariably exceed female deaths in every region except Gojjam; 91.7 for under one month and 95.9 for under one year (see Table 4.7). This is consistent with the expected sex-ratio at death of infants since slightly more boys than girls are born and boys are generally subjected to a slightly higher rate of mortality (UN, 1955). On the other hand, the excess of female deaths over male deaths in Gojjam indicates the possibility that deaths of infant males are under-reported.

Table 4.15 Sex-ratio at Death by Age, 12 Regions, Rural Ethiopia, 1986/87

Age Group	Sex Ratio
< a month	135.9
1-12 months	106.2
1-4	94.7
5-9	100.1
10-14	122.1
15-19	131.3
20-24	80.9
25-29	64.9
30-34	67.7
35-39	72.0
40-44	107.4
45-49	113.5
50-54	98.7
55-59	168.5
60-64	90.7
65-69	110.4
70-74	98.8
75-79	93.0
80+	116.9
Total	103.5

b) Observed Patterns of Death Rates by Age and Sex

Another clue to the possible under-reporting of deaths during registration process is observed by examination of the pattern of death rates by age and sex. If the registration of death is virtually complete then there appears an almost standard pattern of death rates by age and sex. That is, the rates for males in each age are higher than those for females. Furthermore, the rates are quite high in the age group under one year, after which they rapidly decrease to a low point after age 10. From this minimum, the rates rise slowly at first and at the oldest ages increase very rapidly (UN, 1955).

In reviewing the age-sex pattern of death rates of the rural population as obtained by ESVRS, some deviations are observed from the above typical pattern. For example, considering the age-sex pattern of death rates for the 12 regions, the male rates are lower than those for females in the age groups 1-4, 5-9, 20-24 to 35-39 and 60-64 to 80 years and over. Only the deviations in age groups 20-24 to 35-39 might be explained in terms of high

maternal mortality, among other things. On the other hand, the rates for both males and females in the successive age groups exhibit no deviation from the expected steady and smooth progression of a U-curve, except in age group 25-29 for males and 40-49 years for females. It is most implausible that men aged 25-29 years have lower mortality than men aged 20-24 years or women aged 40-44 years have lower mortality than women aged 35-39 years (see Table 4.8). Thus, the age-sex pattern of death rates for this population strongly suggest that death reporting was incomplete or the age reporting was dubious.

c) Levels of Observed Death Rates

The observed crude death rates in some of the regions (eg. Wollo, Sidamo etc.) are found to be very low than the expected mortality level (see Table 4.2,). In the light of the prevailing social, economic and health conditions in the rural areas of Ethiopia, these observed low level of mortality rates could only be attributed to the under-reporting of death events, particularly, death of infants, in these regions.

The level of the observed infant mortality rates are related to the level of the total death rates. Regions with high death rates have high infant mortality rates and vice versa. For example, in Gojjam, Wellega and Wollo, the level of infant mortality rates are relatively very low than, say, in Arssi and Gamo Goffa etc. When the conditions affecting public health situations in the rural areas of these regions are compared they turn out to be almost homogeneous and no wide difference exist to such an extent that such wide difference in infant mortality could be expected. Therefore, the variations in the level of death rates, in particular, infant mortality rates, among the different regions are attributable to variations in the degree of completeness of reporting of the number of deaths, especially infant deaths, in each region.

d) Comparison of CDRs Obtained by the 1986/87 ESVRS and Other Sources

In this section, it is intended to compare CDRs and IMRs obtained by ESVRS with CDRs, IMRs obtained by the 1981/82 Demographic Sample Survey, 1984 census of Ethiopia and 1982/83 ESVRS. The CDRs and IMRs obtained by the different data sources are presented in Table 4.16. From the Table, it can be observed that the CDR for the 12 regions obtained by the 1986/87 ESVRS

(14.1) is higher than that obtained by both the DSS (11.5) and the 1984 census (9.2); thus indicating that deaths were better reported in the 1986/87 ESVRS than in both the census and the DSS. This feature also holds true for all the regions in the case of the census but in the case of the DSS there are exceptions. In Gondar and Sidamo deaths were better captured by the DSS than the 1986/87 ESVRS while in the remaining regions the converse holds true.

In some regions, the discrepancy between the CDRs obtained by the two sources (census and 1986/87 ESVRS) is so wide that it amounts to about 38.3 percent of the CDR obtained by the 1986/87 ESVRS OR 62.2 percent of the CDR obtained by the census (Eg. Hararge), thus indicating the high degree of under-enumeration of death in the census. In the census, deaths were enumerated retrospectively i.e., the respondents were asked to report deaths that occurred in the last 12 months before the census date. This would have led to memory laps which resulted in under enumeration of deaths that occurred during the reference year. On the other hand, in the registration system, deaths were registered continuously as soon as the event occurred. Hence, the possible under-registration of deaths could mostly be due to factors other than memory laps.

Comparison of the CDRs obtained by the 1981/82 and 1986/87 ESVRS reveals that death events have been captured more or less, equally by the two period registration system. Hence, the discrepancy between the CDRs obtained by the two period (1981/82 and 1986/87) registration system is narrow except in some regions (see Table 4.16).

With regard to IMR, both the census and DSS have captured infant deaths by far better than the 1986/87 ESVRS (see Table 4.16). The IMRs derived from data obtained by the DSS and census are 112.2 and 111.6, respectively while this is 94.6 for the ESVRS. The relatively better performance in the enumeration of infant deaths by both the census and DSS than both the 1981/82 and 1986/87 ESVRS is reflected in almost every region.

Now, assuming that the adjusted death rate for the rural areas of the 12 regions derived from the census is complete and there is no change in the prevailing mortality from the census to the registration date, percentage completeness of the 1986/87 registration of death is measured by comparing with the adjusted CDR derived from the census. Percentage completeness of CDR

obtained by ESVRS evaluated Eagainst the observed set of CDR obtained by the census are presented in Table 4.17.

As can be seen from the table, the crude death rate obtained by ESVRS is 92.8 percent complete as compared with that obtained by the census. At regional level, the highest percentage completeness is estimated for Hararge (116.4) followed by Arssi (109.9), Keffa (109.8) and Gamo Goffa (108.5). Relatively, the lowest percentage completeness is observed for Wollo (55.9) (see Table 4.17).

Table 4.16 Reported CBRs and IMRs Derived from the 1981/82 Demographic Sample Survey (DSS), 1984 Census of Ethiopia, 1982/83 and 1986/87 ESVRS By Region, Rural Ethiopia

Region	CDR				IMR			
	DSS 1981/82	Census 1984	ESVRS 1982/83	ESVRS 1986/87	DSS 1981/82	Census 1984	ESVRS 1982/83	ESVRS 1986/87
Arssi	16.4	10.2	15.6	19.9	191	131	135	188.9
Bale	11.0	9	16.6	13.3	195.2	150	170	113.8
Gamo Goffa	16.3	11.3	17.2	17.9	120.8	115	95	132.6
Gojjam	8.3	7.5	15.4	13.0	95.1	108.2	92	69.0
Gondar	14.6	6.7	13.2	12.9	126.7	91.8	93	77.0
Hararge	12.7	8.7	17.3	20.6	106.2	133	101	101.7
Illubabor	13.6	11.6	18.5	16.8	146.8	107	70	86.4
Keffa	17.7	11.9	18.4	21.3	109.1	135.7	127	115.1
Shewa	10.2	9.5	12.1	12.2	108.9	111	73	92.1
Sidamo	11.7	8.9	13.0	9.6	97.6	97.9	88	83.5
Wellega	7.2	10.9	16.4	13.9	88.3	93	89	68.9
Wollo	8.8	6.7	13.2	9.5	98.3	106.3	80	61.1
Total	11.5	9.2	14.6	14.1	112.2	111.6	95	94.6

N.B 1= Estimated.

Table 4.17 Percentage Completeness of Death Registration Measured by Comparing the CDRs (Rural) Derived from the Data of the 1984 Census and the 1986 87 ESVRS

Region	Crude death rate		Difference (Census-ESVRS) (3)	Percentage Difference ((3)/(1))100 (4)	Percentage Completeness 100 - (4) (5)
	Census (Adjusted) (1)	ESVRS (Reported) (2)			
Arssi	18.1	19.9	-1.8	-9.9	109.9
Bale	21.8	13.3	8.5	39.0	61.0
Gamo Goffa	16.5	17.9	-1.4	-8.5	108.5
Gojjam	14.1	13	1.1	7.8	92.2
Gondar	13.2	12.9	0.3	2.3	97.7
Hararge	17.7	20.6	-2.9	-16.4	116.4
Illubabor	18.4	16.8	1.6	8.7	91.3
Keffa	19.4	21.3	-1.9	-9.8	109.8
Shewa	16.0	12.2	3.8	23.8	76.3
Sidamo	13.7	9.6	4.1	29.9	70.1
Wellega	14.6	13.9	0.7	4.8	95.2
Wollo	17.0	9.5	7.5	44.1	55.9
Total	15.2	14.1	1.1	7.2	92.8

4.6 Factors Affecting the Completeness of Death Registration

As suggested by the various methods of appraisal, the completeness of death reporting is incomplete. In this section some of the factors contributing to the incompleteness of the registration of death events, as observed from previous and current studies, will be indicated.

Obviously, reporting of death is not compulsory, it is rather voluntary. Possible other factors affecting the completeness of death reporting include social customs, superstitious beliefs, lack of education, lack of motivation and lack of knowledge about the uses of vital statistics on the side of the rural population. On the other hand, failures of enumerators to follow the instruction correctly and poor supervision contribute a lot to the incompleteness of death registration. Furthermore, lack of fund to run the registration system independently and poor management are other factors which contributed to the incompleteness of registration of vital events. Most of all, it is the absence of legislation which cover the general principle of a registration system such as, legality of collecting vital events, compel people to report the events as soon as they occur, etc., that play the major role to the incompleteness of the registration activity.

Chapter V

Nuptiality

Rapid population growth is considered to be the major obstacle of third world's socio-economic development. Population policies and family planning programmes are necessary to regulate the population growth. In a society where most fertility occurs within marital union, the changes in nuptiality pattern are of great interest to policy makers and researchers. The changes in fertility pattern are not only observed due to timing of first marriage and celibacy but also due to the extent of broken marriages that influence the time span of the reproductive behaviour.

On the other hand, changes in the distribution of marital status have also an important bearing on the size and structure of families and households that in turn influence the needs of housing and consumer goods. Hence, in Ethiopia where marriage is considered as the foundation of society and family, nuptiality could be studied as a proximate determinant of fertility and as a reason for the burden of housing and other necessities.

In Ethiopia, marriage practices differ from region to region due to their cultural differences. Here marriage is defined as a legal or cultural union of persons of opposite sexes. In the previous surveys marriages had been studied in four categories, namely: civil, religious, customary and 'others' (CSA, 1990). However, the present survey will not try to make these distinctions since most marriages are predominately customary.

In this chapter, marital status and frequency of marriage of the rural population will be dealt with. The marital status data is obtained from the household change survey of September 1986 and September 1987 while the marriage data is obtained from the registration system of September 1986 - August 1987.

5.1 Marital Status of the Rural Population

The study presents the marital situation of the rural sedentary population in which regional comparisons of proportion single, married, divorced and widowed are analysed. Table 5.1 shows the distribution of the marital status of the rural population by region, while Table 5.2 presents marital status distribution of the total rural population of the 12 regions by age.

a) The Proportion Single

This section looks at the population that has never married (single) at the time of the survey. Accordingly, Table 5.1 indicates that 34.8 percent of the rural population aged 10 years and above were single in 1986. As can be seen from the table, the proportion of single females (27.4 percent) is lower than that of males (42.3 percent).

According to the standardized rates, it is observed that the proportion of single persons is highest in Wellega (38.7 percent) followed by Shewa (38.1 percent), Illubabor (36.8 percent) and Sidamo (36.8 percent) while this was lowest in Gojjam (25.4 percent) followed by Gondar (27.1 percent). The proportion single in the remaining regions is concentrated within a range of 32.9 and 36.7 percent. The proportion of single males and females are also found to be highest in Wellega (46 and 31.7 percent, respectively) and lowest in Gojjam (33.7 and 17.9 percent, respectively) followed by Gondar (37.2 and 18.0 percent, respectively). In all the regions, the proportion of single males is higher than the proportion of single females.

Table 5.2 shows that the proportion single is highest at age 10-14 for both sexes and declines with an advancing age, although more rapidly for females than males (see Figure 5.1). For example, over 97 percent of males and 92 percent of females were single at ages 10-14 years and this diminishes to 48.8 percent for males and 10.7 percent for females by the time they attain the age of 20-24 years. There were few persons remaining unmarried over the age of 40 years, indicating universality of marriage.

Age at marriage was observed to be lower for females than males. This is also consistent with the singulate mean age at marriage (SMAM) which is computed from the data of the present study. The singulate mean age at marriage for males and females was 22.8 and 17.9 years, respectively (see Table 5.3).

The proportion of single persons at the age of 45-49 can reflect the degree of remaining single (celibacy). The figure for degree of celibacy in Ethiopia can be taken as one percent. In other words, at age group 45-49, the proportion single for both sexes was one percent. The proportion single at this age was higher for males (1.2%) than for females (0.8%).

Table 5.1 Percentage Distribution of the Reported and Standardized Population Aged 10 Years and Above By Marital Status, Sex and Region, Rural Ethiopia: 1986/87

Region	Sex	Single		Married		Divorced		Widowed		N.S		Totral		
		Rep.	Sta.*	Rep.	Sta.*	Rep.	Sta.*	Rep.	Sta.*	Rep.	Sta.*	Rep.	Sta.*	Population
Arssi	M	41.6	37.6	55	58.6	2	2.3	1.3	1.4	0.1	0.1	100	100	626770
	F	28.2	27.2	58.4	59.4	3.9	4.0	9.4	9.3	0.1	0.1	100	100	526546
	T	35.5	32.9	56.5	58.8	2.9	3.0	5	5.2	0.1	0.1	100	100	1153316
Bale	M	43.9	45.3	52.9	51.7	1.8	1.8	1.3	1.1	0.1	0.1	100	100	204152
	F	27.9	28.9	59.4	59.5	3.2	3.2	9.4	8.3	0.1	0.1	100	100	224388
	T	35.7	36.6	56.2	55.8	2.5	2.7	5.5	4.8	0.1	0.1	100	100	428540
Gamo	M	40.1	41.4	53.8	52.4	3.5	3.4	2.5	2.7	0.1	0.1	100	100	397098
Goffa	F	29.1	30.3	58	55.0	4.2	4.2	8.6	10.4	0.1	0.1	100	100	408379
	T	34.5	35.7	56	54.1	3.8	3.7	5.6	6.4	0.1	0.1	100	100	805477
Gojjam	M	31.7	33.7	59.3	57.5	8	7.7	0.9	1.0	0.1	0.1	100	100	1132024
	F	17	17.9	60.6	59.1	16.6	16.4	5.7	6.5	0.1	0.1	100	100	1144173
	T	24.3	25.4	60	58.8	12.3	12.0	3.3	3.7	0.1	0.1	100	100	2276197
Gondar	M	36.5	37.2	57	56.4	5.5	5.4	0.9	0.9	0.1	0.1	100	100	672748
	F	19.6	18.0	60.1	60.7	14.8	15.0	5.4	6.2	0.1	0.1	100	100	648252
	T	28.2	27.1	58.5	59.4	10.1	10.0	3.1	3.4	0.1	0.1	100	100	1321000
Hararge	M	44.9	44.1	50.2	50.6	2.6	2.6	2.2	2.6	0.1	0.1	100	100	912607
	F	30.8	29.5	54.6	54.0	4	4.0	10.5	12.4	0.1	0.1	100	100	893096
	T	37.9	36.7	52.3	52.4	3.3	3.3	6.4	7.5	0.1	0.1	100	100	1805703
Illubabor	M	41.8	45.6	51.2	47.8	4.3	4.1	2.4	2.2	0.3	0.3	100	100	342725
	F	24.5	27.9	58.5	57.6	6.5	8.0	10.2	6.2	0.3	0.3	100	100	350857
	T	33	36.8	54.9	52.4	5.4	5.3	6.4	5.2	0.3	0.3	100	100	693582

Table 5.1 (Cont.)

Region	Sex	Single		Married		Divorced		Widowed		N/S		Total		
		Rep.	Sta.*	Rep.	Sta.*	Rep.	Sta.*	Rep.	Sta.*	Rep.	Sta.*	Rep.	Sta.*	Population
Keffa	M	41.6	44.4	54.3	51.6	2.3	2.3	1.5	1.4	0.3	0.3	100	100	634381
	F	24.4	28.4	60.5	57.0	4.7	9.6	10	4.6	0.4	0.4	100	100	685310
	T	32.6	36.2	57.6	54.3	3.5	3.4	5.9	5.7	0.4	0.4	100	100	1319691
Shewa	M	45.3	45.7	50	49.7	2.9	2.8	1.3	1.3	0.5	0.5	100	100	2470079
	F	31	30.8	52.6	53.4	6.1	6.1	9.8	9.2	0.5	0.5	100	100	2581023
	T	38	38.1	51.3	51.5	4.5	4.5	5.7	5.4	0.5	0.5	100	100	5051102
Sidamo	M	46.7	43.0	50.1	53.7	2.1	2.1	0.9	1.0	0.2	0.2	100	100	1317718
	F	31.8	30.6	58.3	57.2	2.2	2.2	7.5	9.7	0.2	0.2	100	100	1315668
	T	39.3	36.8	54.1	55.9	2.2	2.4	4.2	4.9	0.2	0.2	100	100	2633386
Wellega	M	46.3	46.0	48.6	48.6	3.2	3.3	1.7	1.9	0.2	0.2	100	100	863449
	F	33.8	31.7	52.2	55.0	4.3	4.4	9.5	8.7	0.2	0.2	100	100	913936
	T	39.9	38.7	50.4	51.9	3.8	3.9	5.7	5.3	0.2	0.2	100	100	1777385
Wollo	M	40.6	45.0	54.3	50.2	3.7	3.7	1.2	1.0	0.2	0.1	100	100	873428
	F	21.2	24.2	54.8	55.6	12.5	11.8	11.4	8.3	0.1	0.1	100	100	930604
	T	30.6	34.6	54.6	52.5	8.2	8.0	6.5	4.8	0.1	0.1	100	100	1804032
Total	M	42.3		52.5		3.6		1.4		0.2		100	100	10447180
	F	27.4		56.3		7.2		8.9		0.2		100	100	10622239
	T	34.8		54.4		5.4		5.2		0.2		100	100	21069419

Rep.=Reported

Sta.=standardized

* Standardized on the basis of 1986/87 Rural Population of Ethiopia

b) The Proportion Currently married

In 1986, about 54 percent of the population aged 10 years and above were married. The percentage of currently married females (56.3%) was higher than that of males (52.5%). Limiting the analysis to standardized rate, it can be seen that the proportion of currently married persons was highest in Gondar (59.4%) followed by Arsi (58.8%), Gojjam (58.8%), Bale (55.8%) and Sidamo (55.9%); while this was lowest in Shewa (51.5%) followed by Wellega (51.9%). The figures for the remaining regions ranged from 52.4% to 54.3%. The standardized proportion of currently married males was highest in Arsi (58.6%), and in Gojjam (57.5%) and lowest in Illubabor (47.8%). On the other hand, the proportion of currently married females was also found to be highest in Gondar (60.7%) followed by Bale (59.5%) and Arsi (59.4%); while the lowest proportion was in Wellega (55.0%). The proportion of currently married females of all regions was consistently higher than the proportion of married males.

From Table 5.2 some important points could be raised. To mention some: Marriage is universal and also begins at an early age. In 1986 about 23 and 83 percent of rural population in the age group 15-19 and 25-29 respectively were currently married. The unmarried population above age 40 was insignificant. Almost 90 percent of the population were married when they reach age 35-39 (see Figure 5.2). For both sexes, the tendency of marriage rises with age up to middle age and tapers off thereafter. However, there were more men than women in marital union at higher ages. This indicates the greater chances of remarriage for men than women, especially at higher ages.

c) The Proportion Divorced, Separated and Widowed

This section deals with the population with dissolved marriages. In this report divorce and separation are treated in one category. Table 5.1 shows that 5.4 percent and 5.2 percent of the population aged 10 years and above were divorced and widowed respectively . The proportions of widowed (8.9%) and divorced (7.2%) females are higher than the proportions of widowed (1.4%) and divorced (3.6%) males. According to the standardized data, the proportion divorced was highest in Gojjam (12.0%) followed by Gondar (10.0%) and Wollo (8.0%) while this was lowest in Sidamo (2.4%) followed by Bale (2.7%).

Table 5.2 Percentage Distribution of the Population 10 Years and Above By Marital Status , Sex and Age, 12 Regions,Rural Ethiopia,1986/87

Age	Single			Married			Divorced			Widowed			N/S			Total					
Group	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M		F		T	
																No	%	No	%	No	%
10–14	97.9	92.4	95.4	1.5	5.6	3.4	0.3	1.6	0.9	0.1	0.1	0.1	0.2	0.3	0.2	2247886	100	2010080	100	4257966	100
15–19	87.8	54.7	72.3	10.0	38.0	23.2	2.0	7.0	4.3	0.1	0.2	0.1	0.1	0.1	0.1	1738980	100	1566573	100	3305553	100
20–24	48.8	10.7	28.4	44.4	78.7	62.7	6.4	9.7	8.2	0.3	0.8	0.6	0.1	0.1	0.1	894208	100	1024351	100	1918559	100
25–29	17.0	2.5	8.7	74.4	88.2	82.7	6.6	7.7	7.3	0.7	1.5	1.2	1.3	0.1	0.1	905067	100	1202098	100	2107165	100
30–34	5.6	1.3	3.2	87.5	88.7	88.1	5.8	6.8	6.4	1.0	3.1	2.2	0.1	0.1	0.1	736150	100	975543	100	1711693	100
35–39	2.1	0.8	1.4	92.4	87.3	89.7	4.3	6.7	5.6	1.1	5.1	3.2	0.1	0.1	0.1	821814	100	900838	100	1722652	100
40–44	2.0	1.1	1.5	92.0	81.0	86.2	4.2	7.7	6.0	1.7	10.1	6.2	0.1	0.1	0.1	640099	100	722523	100	1362622	100
45–49	1.2	0.8	1.0	93.0	75.3	84.6	3.6	8.7	6.0	2.1	15.1	8.3	0.1	0.1	0.1	549917	100	495613	100	1045530	100
50–54	1.1	0.9	1.0	92.0	65.1	78.0	4.1	10.7	7.4	2.6	23.3	13.4	0.2	0.1	0.1	449700	100	491118	100	940818	100
55–59	0.8	0.7	0.7	92.3	59.1	77.0	3.8	11.3	7.3	3.0	28.7	14.9	0.1	0.1	0.1	360171	100	311260	100	671431	100
60–64	1.3	1.0	1.1	89.8	43.3	66.7	4.4	13.4	8.9	4.3	42.1	23.1	0.2	0.2	0.2	351814	100	346932	100	698746	100
65+	1.3	1.5	1.4	85.5	25.0	59.4	5.3	12.2	8.3	7.5	60.8	30.5	0.4	0.5	0.4	737641	100	561998	100	1299639	100
N/S	6.2	2.4	4.4	26.8	19.5	23.2	3.6	5.6	4.5	5.0	13.1	9.0	58.4	59.4	58.9	13733	100	13312	100	27045	100
Total	42.3	27.3	34.8	52.6	56.3	54.4	3.5	7.2	5.4	1.4	9.0	5.2	0.2	0.2	0.2	10447180	100	10622239	100	21069419	100

Figure 5.1 Proportion Of Single Males And Females
By Age, 12 Regions, Rural Ethiopia,1986/87

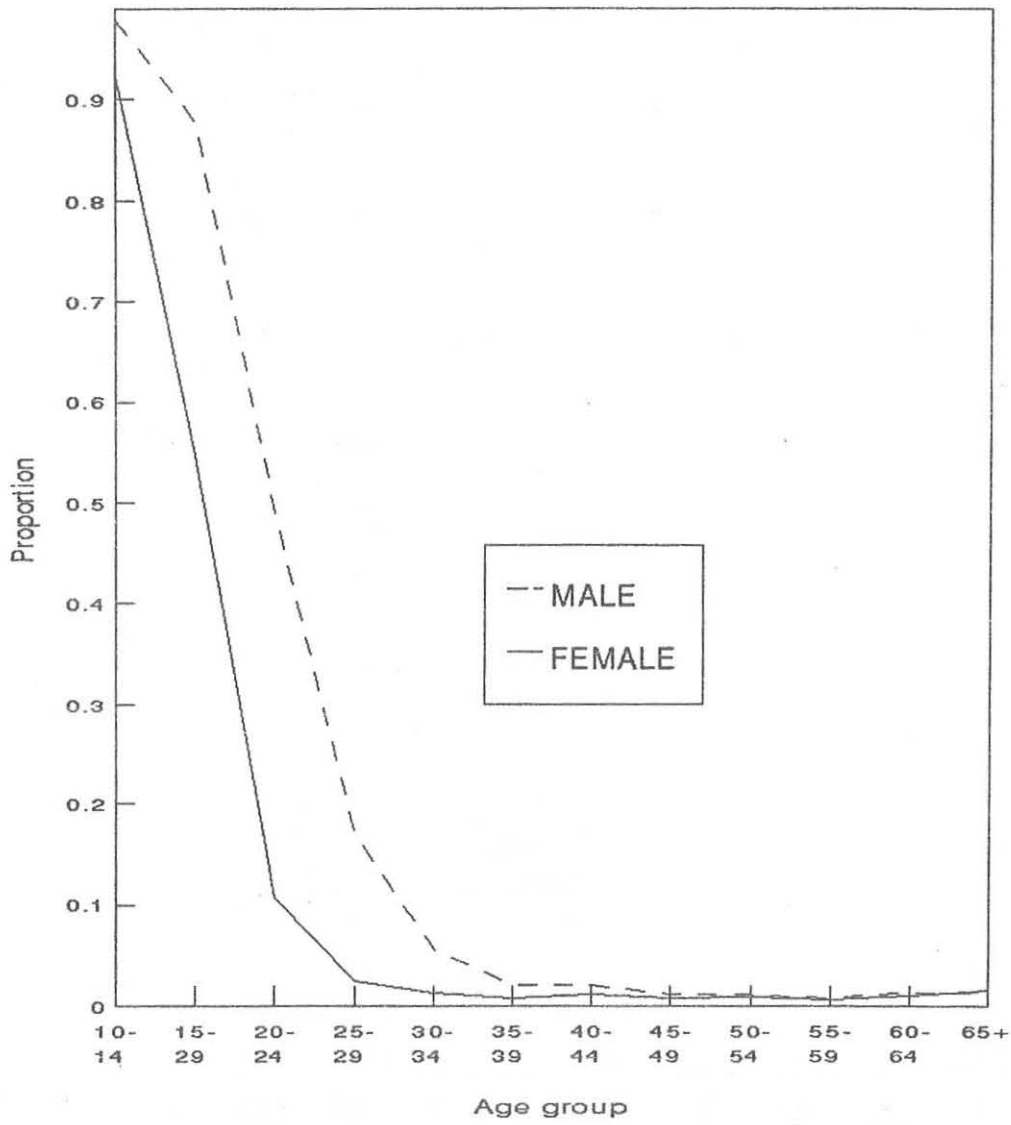


Figure 5.2 The proportion Of Married Males And Females By Age, 12 Regions, Rural Ethiopia, 1986/87

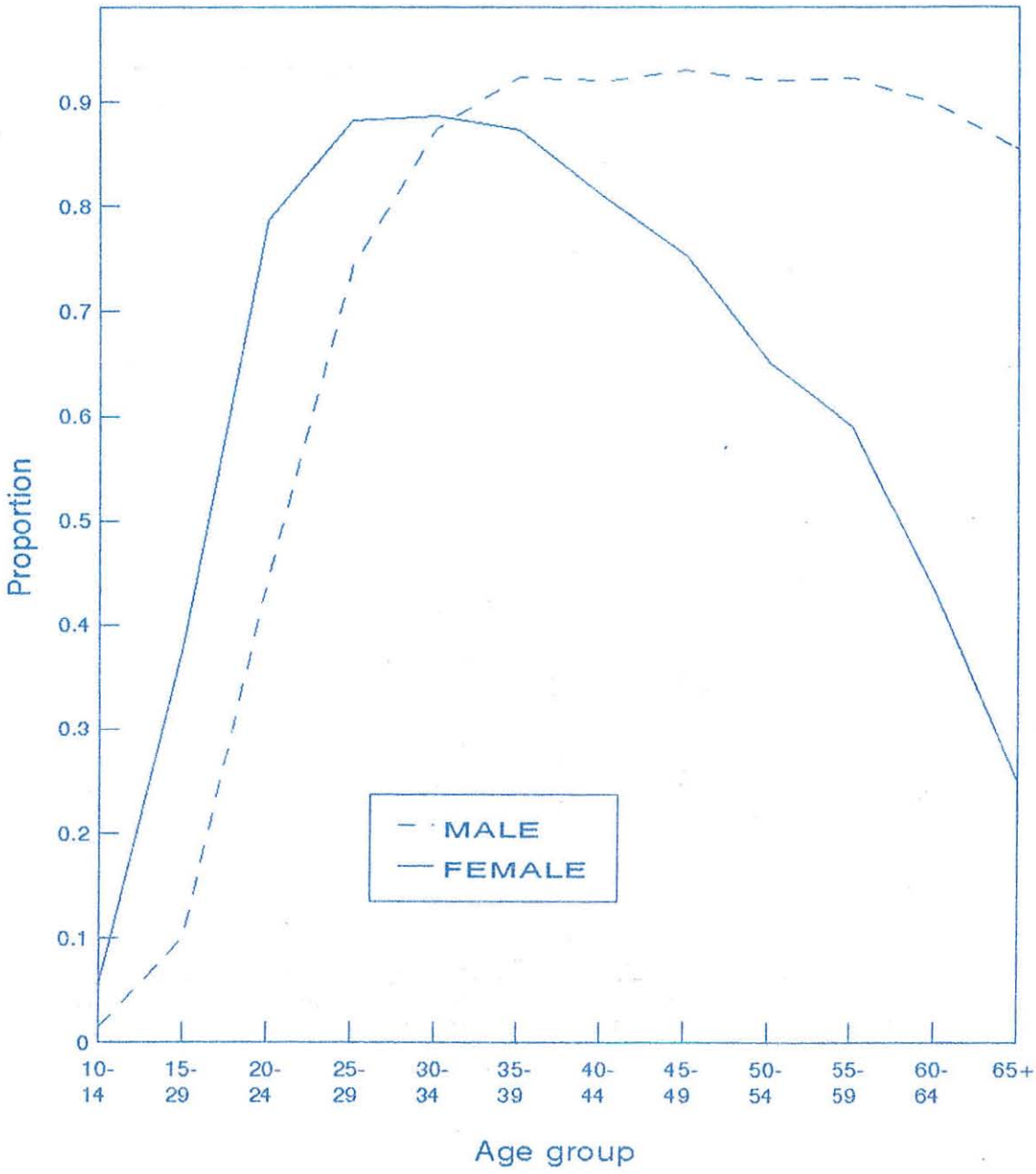


Figure 5.3 Proportion of Divorced Males And Females By Age,12 Regions, Rural Ethiopia, 1986/87

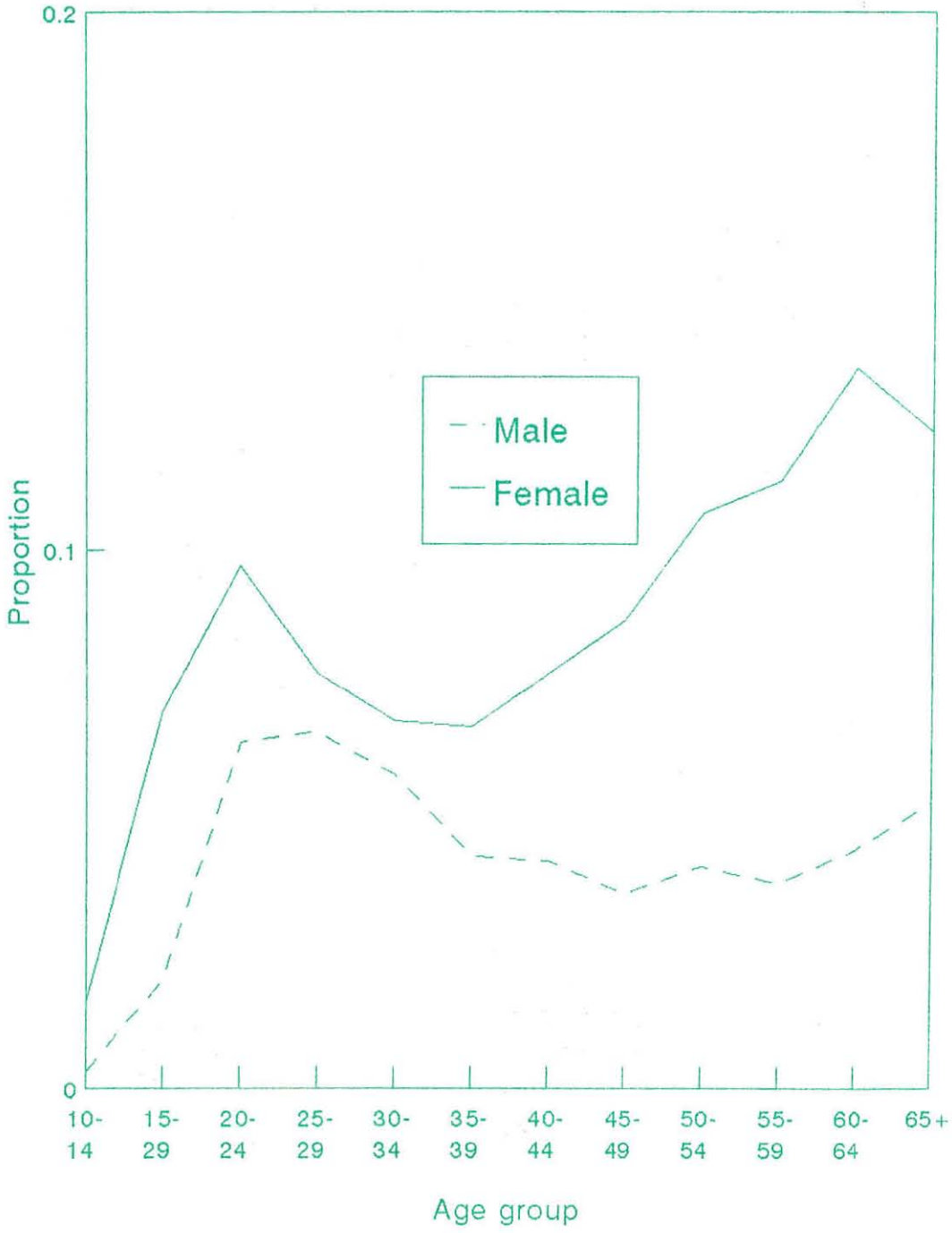
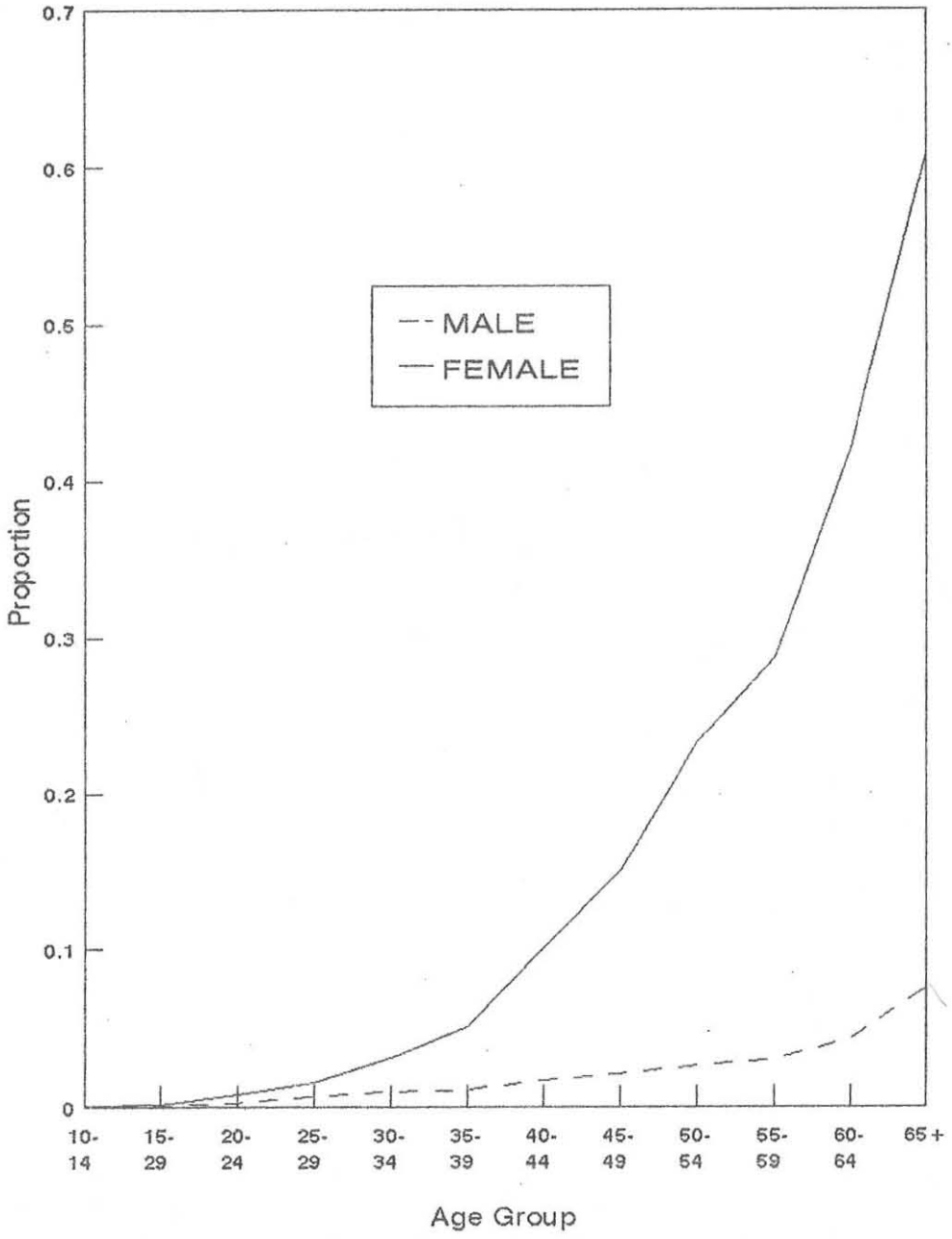


Figure 5.4 Proportion Of Widowed Males And Females By Age, 12 Regions, Rural Ethiopia, 1986/87



With regard to proportion divorced by sex, the result was different. The standardized proportion of divorced males was highest in Gojjam (7.7%) followed by Gondar (5.4%) and Illubabor (4.1%) while for female this was highest in Gojjam (16.4%) followed by Gondar (15.0%), Wollo (11.8%) and Keffa (9.6%). The proportion for males was lowest in Bale (1.8%) followed by Sidamo (2.1%) while for females this was lowest in Sidamo (2.3%) followed by Bale (3.2%).

The rank order of the regions indicate that the proportion (standardized) of widowed is highest in Hararge (7.5%) followed by Gamo Goffa (6.4%) while this was lowest in Gondar (3.4%) followed by Gojjam (3.7%). The standardized proportion of widowers ranked first in Gamo Goffa (2.7%) and second in Hararge (2.6%), and the standardized proportion of widows ranked first in Hararge (12.4%) and second in Gamo Goffa (10.4%). However, the proportion of widowers (0.9%) and widows (4.6%) were found to be lowest in Gondar and Keffa, respectively.

The examination of age distribution of divorced and widowed males and females indicates some similar features. Firstly, the proportion of the divorced and widowed are prominent at higher ages. Secondly, in the majority of age groups, the proportions of divorced and widowed were substantially higher among females than males. This finding can be attributed to greater chances of remarriage among males. In addition, women are younger at marriage and have greater chances of survival than their husbands (see Table 5.2, Figures 5.3 and 5.4).

d) Singulate Mean Age at Marriage

Singulate mean age at marriage (SMAM) is a measure to estimate the average number of years lived by a cohort of women before their first marriage. This technique is used when there is no data on age at marriage. The technique uses proportions of single by age group. The source of data used in this technique is the 1986 base line household survey.

The singulate mean age at marriage by region is presented in Table 5.3. The singulate mean age at marriage for the rural sedentary population was estimated to be 22.8 and 17.9 years for males and females, respectively. Among the regions the rate was found to be lowest for men (18.9) and women (14.8) in Gojjam followed by Gondar, (20.3 and 14.9 for men and women, respectively) while it was found to be highest for men (25.4) in Keffa and for women (19.6) in Wellega.

The estimated ages at marriage for men and women indicate that the average difference in age at marriage between grooms and brides was about 5 years. The difference was highest in Wollo (7.3 years) followed by Keffa (7.1 years) and lowest in Gamo Gofa (3.1 years) followed by Arssi (3.6 years). In the remaining regions, the differences range between 4.1 and 5.9 years.

Table 5.3 Singulate Mean Age At Marriage By Sex and Region, Rural Ethiopia, 1986/87

Regions	Sex			Age Difference Between Groom and Bride
	Male	Female	Total	
Arssi	21.4	17.8	19.7	3.6
Bale	24.2	18.4	21.0	5.8
Gamo Goffa	22.1	19.0	20.4	3.1
Gojjam	18.9	14.8	16.8	4.1
Gondar	20.3	14.9	17.6	5.4
Hararge	23.5	18.6	20.9	4.9
Illubabor	23.8	17.9	20.8	5.9
Keffa	25.4	18.3	22.2	7.1
Shewa	24.4	19.2	21.6	5.2
Sidamo	23.0	18.7	20.7	4.3
Wellega	24.6	19.6	21.9	5.0
Wollo	24.2	16.9	20.5	7.3
Total	22.8	17.9	20.3	4.9

5.2 Marriage

a) Marriage Rate

In this section, the frequency of marriages observed during the process of continuous registration over one year, together with their relation to the population at risk, are analyzed. Hence, the overall marriage rates, first marriage rates, age-specific marriage rates and seasonality of marriages are presented in detail.

From September 12, 1986 to September 11, 1987 about 287916 marriages were registered. Table 5.4 presents the crude and general marriage rates by region. The crude marriage rate

measures the annual frequency of marriage per thousand population. As the table indicates, the crude marriage rate for the 12 regions was 9.4 per thousand population.

The regional crude marriage rates vary from 5.6 in Sidamo to 16.0 in Wollo. The second (13.5) and third (12.7) ranking crude marriage rates were observed in Gojjam and Keffa, respectively. In the remaining regions, the rates are confined within the range of 12.2 and 6.3 per thousand.

The crude marriage rate measures the relative frequency of marriages, while, the general marriage rate is a refined measure that employs only the unmarried population (single, widowed and divorced) aged 10 years and above. Accordingly, the general marriage rate for the 12 regions was 30.8 per thousand unmarried population aged 10 years and above.

Similar to the crude marriage rate, the general marriage rate also shows some variations at regional levels. It is found to be highest in Gojjam (50.0) followed by Wollo (47.9) and Keffa (46.2) while this was lowest in Sidamo (18.5). Hence, in terms of crude and General marriage rates, the frequency of marriage is high in Gojjam, Wollo and Keffa while it is low in Sidamo, Shewa and Arssi compared with other regions.

Table 5.4 Number of Marriages, Crude and General Marriage Rates (Per 1000) By Region, Rural Ethiopia, 1986/87

Regions	No. of Marriage	Crude Marriage Rate	General Marriage Rate
Arssi	11415	6.3	23.3
Bale	4667	6.9	25.3
Gamo Goffa	13156	11.3	38.2
Gojjam	44716	13.3	50.0
Gondar	23432	12.2	45.5
Hararge	23903	9.0	28.5
Illubabor	11867	12.0	39.5
Keffa	25166	12.7	46.2
Shewa	47288	6.5	19.7
Sidamo	21861	5.6	18.5
Wellega	21786	8.5	25.5
Wollo	38659	16.0	47.9
Total	287916	9.4	30.8

b) Marriage Pattern by Previous Marital Status

In demographic and social studies, marriage pattern and marriage stability are considered to be important factors. Marriage depends on demographic factors such as, age, sex and previous marital status. This section deals with marriage pattern by previous marital status.

Table 5.5 presents the data on previous marital status (single, married, divorced, widowed) of the population currently marrying. These data help one to study the pattern of first marriages, re-marriages, and polygamous marriages. First marriages are marriages of the population who were single (never married) prior to their current marriage. Re-marriages are marriages of the population who were widowed or divorced prior to their current marriage. Polygamous marriages are defined here as marriages by men who already have another wife/wives.

The data according to the previous marital status of the currently marrying population indicate that 53.6 percent were single, 8.6 percent were currently married (males only), 31.4 percent were currently divorced and 4.8 percent were currently widowed. Among males, 49.9, 17.2, 27.8 and 4.5 percent were never married, currently married, divorced and widowed, respectively; while among females, 57.3, 35.1 and 5 percent were never married, currently divorced and widowed, respectively.

As can be expected, higher proportion of marriages were first marriages (53.6%) compared to the proportion of re-marriages of currently divorced and widowed persons (36.2%) and polygamous marriages (8.6%). However, this was not consistent in all regions. In Gojjam, Gondar, Illubabor and Wollo, the proportion of re-marriages was higher than the proportion of first marriages. Particularly, the re-marriages of the divorced was very high in these regions. The proportion of first marriage ranges from 67.2 percent in Hararge to 35.6 percent in Illubabor. Furthermore, the re-marriage of the divorced was found to be higher than that of the re-marriage of the widowed in each region.

Some differences were also observed in the distribution of marriage by previous marital status of males and females. The frequency of first marriages and re-marriages among females were higher than among males in rural Ethiopia as a whole. The proportion of first marriages for males and females amount to

Table 5.5 Numerical and Percentage Distribution of Marriages By Previous Marital Status, Sex and Region, Rural Ethiopia: 1986/87

Region	Sex	Single		Married		Divorced		Widowed		N/S		Remarriages		Total	
		No	%	No	%	No	%	No	%	No	%	No	%	No	%
Arssi	M	6446	56.5	2615	22.9	1162	10.2	953	8.3	239	2.1	2115	18.5	11415	100
	F	8457	74.1	–	–	2354	20.6	331	2.9	273	2.4	2685	23.5	11415	100
	T	14903	65.3	2615	11.5	3516	15.4	1284	5.6	512	2.2	4800	21.0	22830	100
Bale	M	2449	52.5	1613	34.6	436	9.3	169	3.6	–	0.0	605	13.0	4667	100
	F	3490	74.8	–	–	662	14.2	135	2.9	380	8.1	797	17.1	4667	100
	T	5939	63.6	1613	17.3	1098	11.8	304	3.3	380	4.1	1402	15.0	9334	100
Gamo	M	8140	61.9	2298	17.5	2474	18.8	244	1.9	–	0.0	2718	20.7	13156	100
Goffa	F	8987	68.3	–	–	3617	27.5	435	3.3	117	0.9	4052	30.8	13156	100
	T	17127	65.1	2298	8.7	6091	23.1	679	2.6	117	0.4	6770	25.7	26312	100
Gojjam	M	20876	46.7	1432	3.2	21308	47.7	847	1.9	253	0.6	22155	49.5	44716	100
	F	21639	48.4	–	–	21963	49.1	718	1.6	396	0.9	22681	50.7	44716	100
	T	42515	47.5	1432	1.6	43271	48.4	1565	1.8	649	0.7	44836	50.1	89432	100
Gondar	M	9836	42.0	151	0.6	12492	53.3	953	4.1	–	0.0	13445	57.4	23432	100
	F	10262	43.8	–	–	12643	54.0	510	2.2	17	0.1	13153	56.1	23432	100
	T	20098	42.9	151	0.3	25135	53.6	1463	3.1	17	0.0	26598	56.8	46864	100
Hararge	M	15201	63.6	3406	14.2	2940	12.3	2328	9.7	28	0.1	5268	22.0	23903	100
	F	16903	70.7	–	–	4841	20.3	1844	7.7	315	1.3	6685	28.0	23903	100
	T	32104	67.2	3406	7.1	7781	16.3	4172	8.7	343	0.7	11953	25.0	47806	100
Illubabor	M	3530	29.8	5207	43.9	2150	18.1	931	7.8	49	0.4	3081	26.0	11867	100
	F	4924	41.5	–	–	5338	45.0	1160	9.8	445	3.8	6498	54.8	11867	100
	T	8454	35.6	5207	21.9	7488	31.5	2091	8.8	494	2.1	9579	40.4	23734	100

Table 5.5 (Cont.)

Region	Sex	Single		Married		Divorced		Widowed		N/S		Remarriages		Total	
		No	%	No	%	No	%	No	%	No	%	No	%	No	%
Keffa	M	10161	40.4	9349	37.1	3739	14.9	1464	5.8	453	1.8	5203	20.7	25166	100
	F	12496	49.7	–	–	8068	32.1	2854	11.3	1748	6.9	10922	43.4	25166	100
	T	22657	45.0	9349	18.6	11807	23.5	4318	8.6	2201	4.4	16125	32.0	50332	100
Shewa	M	28639	60.6	7563	16.0	8895	18.8	1659	3.5	532	1.1	10554	22.3	47288	100
	F	33225	70.3	–	–	10524	22.3	1942	4.1	1597	3.4	12466	26.4	47288	100
	T	61864	65.4	7563	8.0	19419	20.5	3601	3.8	2129	2.3	23020	24.3	94576	100
Sidamo	M	11598	53.1	6900	31.6	2853	13.1	510	2.3	–	0.0	3363	15.4	21861	100
	F	14591	66.7	–	–	6132	28.0	463	2.1	675	3.1	6595	30.2	21861	100
	T	26189	59.9	6900	15.8	8985	20.6	973	2.2	675	1.5	9958	22.8	43722	100
Wellega	M	10554	48.4	4998	22.9	4477	20.5	1634	7.5	123	0.6	6111	28.1	21786	100
	F	11796	54.1	–	–	7720	35.4	1752	8.0	518	2.4	9472	43.5	21786	100
	T	22350	51.3	4998	11.5	12197	28.0	3386	7.8	641	1.5	15583	35.8	43572	100
Wollo	M	16172	41.8	4129	10.7	16984	43.9	1334	3.5	40	0.1	18318	47.4	38659	100
	F	18222	47.1	–	–	17163	44.4	2267	5.9	1007	2.6	19430	50.3	38659	100
	T	34394	44.5	4129	5.3	34147	44.2	3601	4.7	1047	1.4	37748	48.8	77318	100
Total	M	143551	49.9	49556	17.2	80077	27.8	13020	4.5	1712	0.6	93097	32.3	287916	100
	F	165075	57.3	0	–	100920	35.1	14424	5.0	7497	2.6	115344	40.1	287916	100
	T	308626	53.6	49556	8.6	180997	31.4	27444	4.8	9209	1.6	208441	36.2	575832	100

49.9 and 57.3 percent respectively while re-marriages constitute 32.3 and 40.1 percent for males and females, respectively. This pattern of sex distribution of marriage by previous marital status which was observed for rural Ethiopia as a whole also holds for almost all regions (see Table 5.5).

c) Marriage Rate by Previous Marital Status

The rates of first marriage, re-marriage and polygamous marriages by sex and regions are given in Table 5.6. Accordingly the overall rate of re-marriage (99.0 per thousand) was higher than the rate of first marriage (42.3 per thousand). This can be attributed to higher remarriage of the divorced men. The re-marriage rate was higher for males (203.5 per thousand) than for females (70.8 per thousand), while the first marriage rate was higher for females (56.9 per thousand) than for males (32.7 per thousand). First marriage rates were calculated using all persons aged 10 years and over as denominators. This lowers the rate since few persons below the age of 15 enter into a martial union.

Among the remarrying population, re-marriage rate for the divorced (186.0 per thousand) was much higher than for the widowed (25.2 per thousand). The data also shows that the re-marriage rate for the divorced males (258.8 per thousand) was higher than that of the rate for divorced females (152.9 per thousand). Similarly, among the re-married population, the re-marriage rate for the widowed males (91.2 per thousand) was higher than the rate for the widowed females (15.2 per thousand). The above result was expected since the chance of re-marrying for male is higher than females in patriarchal society such as Ethiopia.

There are also considerable regional differences. The highest first marriage rate was found in Gojjam (77.1 per thousand) followed by Wollo (62.5 per thousand) and Gamo-Goffa (61.9 per thousand) while the rate was lowest in Sidamo (25.4 per thousand) followed by Wellega (31.7 per thousand), Shewa (32.4 per thousand) and Arssi (36.6 per thousand).

With respect to re-marriage rate for the divorced men and women the rate has shown also a considerable variation. In Gojjam, Gondar and Keffa, the re-marriage rates for the divorced males were 250.9 , 619.9 and 131.9 per thousand , while the rates for the divorced males in Arssi and Bale were 119.2 and 160.3 per thousand, respectively. The rate for the divorced females was

Table 5.6 Rates of First Marriage,Re-marriages and Polygamy By Sex and Region,Rural Ethiopia:1986/87

Region	Sex	Rates Per Thousand Population				
		First Marriage	Remarriage of		Total Re-Marriage	Rate of Polygamy
			Divorced	Widowed		
Arssi	M	24.8	119.2	114.9	117.1	7.6
	F	57.2	169.5	6.7	42.1	
	T	36.6	150.7	22.2	57.6	
Bale	M	27.4	160.3	62.4	113.4	15.0
	F	55.9	120.6	6.5	30.0	
	T	39.1	133.8	12.9	43.9	
Gamo Goffa	M	51.3	216.8	24.7	122.2	10.8
	F	76.0	315.2	12.4	86.2	
	T	61.9	268.5	15.1	97.1	
Gojjam	M	58.5	250.9	86.4	233.6	2.1
	F	111.4	120.4	11.0	91.3	
	T	77.1	161.8	20.9	130.5	
Gonder	M	41.0	619.9	172.2	523.3	0.4
	F	81.2	153.6	14.3	111.5	
	T	54.7	248.0	36.2	187.2	
Hararge	M	37.3	174.3	111.4	139.2	7.5
	F	61.6	208.0	19.7	55.9	
	T	47.1	193.6	36.4	76.2	
Illubabor	M	24.7	164.2	113.8	142.7	29.8
	F	57.7	304.6	32.5	118.1	
	T	37.1	248.0	47.7	124.7	
Keffa	M	38.7	131.9	158.0	233.5	27.2
	F	75.2	84 1	41.7	243.8	
	T	52.9	98.9	55.6	135.6	
Shewa	M	25.7	120.1	52.5	96.2	6.2
	F	41.7	71.8	7.7	29.9	
	T	32.4	86.3	12.7	42.3	
Sidamo	M	18.9	120.7	43.6	93.7	10.5
	F	35.0	308.9	4.7	53.5	
	T	25.4	207.4	8.9	62.5	
Wellega	M	26.5	202.2	112.7	162.1	12.0
	F	38.3	295.6	20.3	82.7	
	T	31.7	256.9	33.6	100.6	
Wollo	M	46.0	568.6	126.6	451.7	8.8
	F	92.0	158.2	21.4	90.6	
	T	62.5	246.5	31.1	147.8	
Total	M	32.7	258.8	91.2	203.5	9.1
	F	56.9	152.9	15.2	70.8	
	T	42.3	186.0	25.2	99.0	

highest in Gamo Goffa (315.2 per thousand) followed by Sidamo (308.9 per thousand) and Illubabor (304.6 per thousand) while this was lowest in Shewa (71.8 per thousand) followed by Keffa (84.1 per thousand) and Gojjam (120.4 per thousand).

The rate for the widowed males was highest in Gondar (172.2 per thousand) followed by Keffa (158.0 per thousand), Wollo (126.6 per thousand) and Arssi (114.9 per thousand) while this was lowest in Gamo Goffa (24.7 per thousand) followed by Sidamo (43.6 per thousand) and Shewa (52.5 per thousand). The re-marriage rate for the widowed females was highest in Keffa (41.7 per thousand) followed by Illubabor (32.5 per thousand) and Wollo (21.4 per thousand population). This was also lowest in Sidamo with 4.7 per thousand widowed female population marrying annually.

The data on marriages cross classified by previous marital status of the bride and groom reveals the prevalence of polygynous marriages, although, of low magnitude. Polyandrous marriages are uncommon in Ethiopian society.

The regional variations appear to be substantial with respect to rate of polygamous marriages. The rate of polygamous marriage was highest in Illubabor (29.8 per thousand) followed by Keffa (27.2 per thousand) and Bale (15.0 per thousand). The rate was lowest in Gondar (0.4 per thousand) followed by Gojjam (2.1 per thousand). The rate of polygamous marriage for the rural Ethiopia appears to be 9.1 per thousand males.

d) Distribution of Marriages by Age

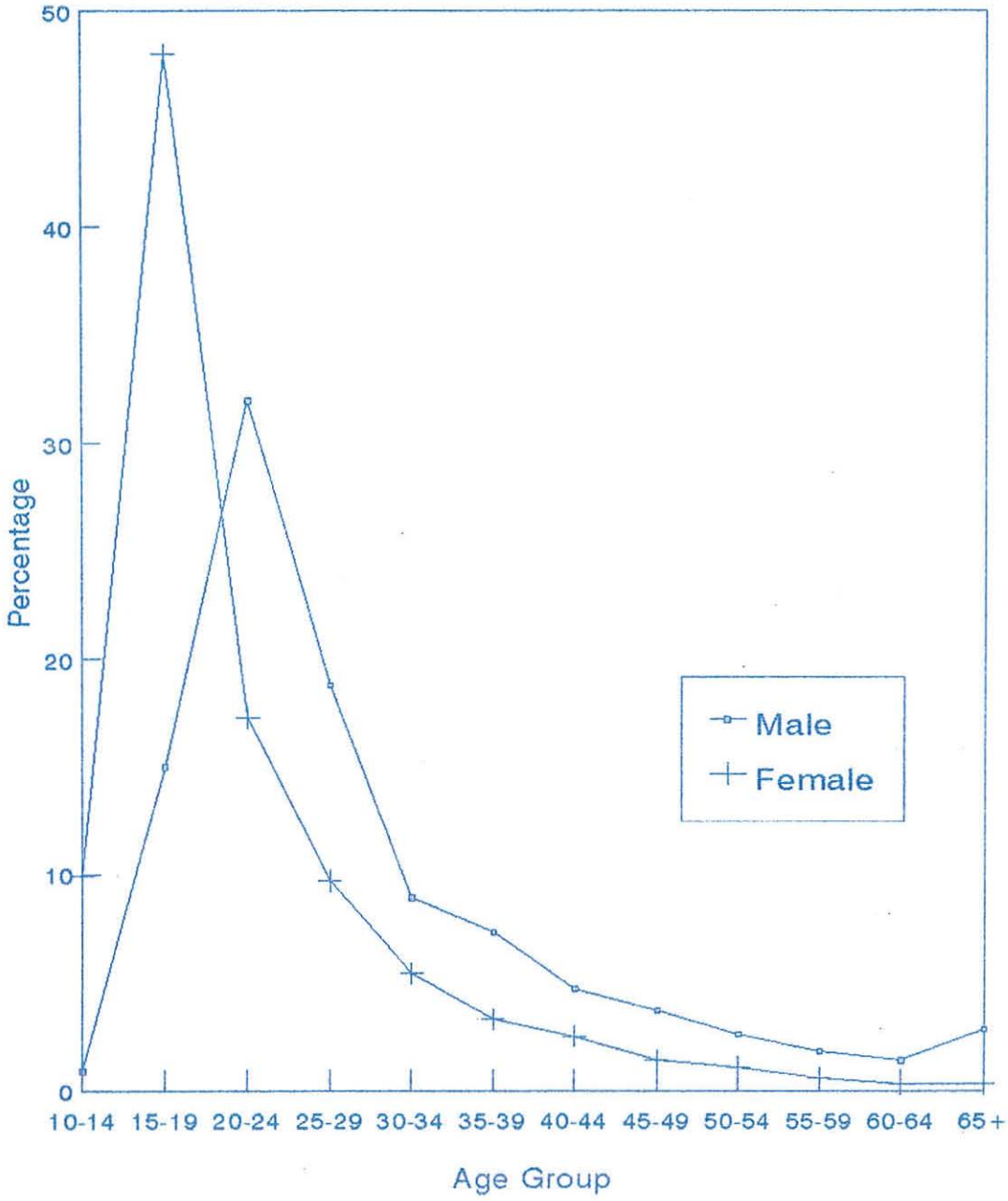
Table 5.7 gives the percentage distribution of marriages by previous marital status, age of bride and groom. According to the data in the table, the highest proportion of all marriages (marriages by those who were single, divorced, married or widowed previously) by males (32.0%) and females (48.0%) occurred in the age groups 20-24 and 15-19, respectively. As it is depicted by Figure 5.5, the percentage marrying rises up to age 15-19 for females and 20-24 for males and then decreases rapidly. The data also show that 9.9 percent of females in rural Ethiopia marry at age 10-14 while less than 1 percent of males do so. On the other hand, 2.8 percent of the males do marry at age of 65 years and above whereas females rarely do so.

Table 5.7 Percentage Distribution of Marriage By Age Group At Marriage, Sex and Previous Marital Status, 12 Regions Rural Ethiopia: 1986/87

Group	Previous Marital Status															
	Single			Married (a)	Divorced			Widowed			N/S			Total		
At Marriage	M	F	T	M	M	F	T	M	F	T	M	F	T	M	F	T
10–14	1.5	15.4	8.9	0.3	0.2	2.7	1.6	0.2	0.3	0.3	–	1.9	1.6	0.9	9.9	5.3
15–19	26.8	66.5	48.0	1.6	4.3	26.2	16.5	0.4	3.5	2.0	13.0	19.8	18.6	15.0	48.0	31.4
20–24	48.6	14.4	30.4	8.8	21.1	23.8	22.6	5.0	8.7	6.9	31.7	10.2	14.3	32.0	17.3	24.7
25–29	18.0	2.7	9.8	16.6	22.7	17.4	19.8	10.8	14.0	12.5	19.1	51.4	45.3	18.8	9.7	14.2
30–34	3.0	0.4	1.6	16.9	13.8	11.4	12.5	13.9	19.8	17.0	8.3	6.9	7.1	8.9	5.4	7.2
35–39	0.9	0.1	0.5	17.2	11.5	6.8	8.9	14.0	15.1	14.5	9.2	5.1	5.8	7.3	3.3	5.3
40–44	0.3	0.1	0.2	11.9	6.5	4.8	5.5	13.3	14.4	13.9	7.8	1.1	2.4	4.7	2.5	3.6
45–49	0.3	0.0	0.1	8.7	5.7	2.5	3.9	11.1	8.8	9.9	1.4	2.0	1.9	3.7	1.4	2.6
50–54	0.1	0.0	0.1	5.8	4.2	2.0	3.0	7.3	6.9	7.1	4.2	0.5	1.1	2.6	1.1	1.8
55–59	0.1	0.0	0.0	3.5	3.3	1.0	2.0	4.7	4.1	4.4	–	–	–	1.8	0.6	1.2
60–64	0.1	–	0.0	2.8	2.2	0.5	1.3	6.8	2.8	4.7	3.0	–	0.6	1.4	0.3	0.9
65+	0.2	0.0	0.1	5.3	4.5	0.6	2.3	12.4	1.5	6.7	1.7	–	0.3	2.8	0.3	1.5
N/S	0.1	0.4	0.2	0.3	0.1	0.3	0.2	0.1	0.1	0.1	0.7	1.1	1.0	0.1	0.3	0.2
All Ages	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Median Age	22.2	17.6	19.3	36.6	30.6	24.4	27.3	42.1	36.2	38.9	26.3	26.7	26.7	25.6	19.2	22.7

(a) Only Males Engage In Polygamous Marriages

Figure 5.5 Percentage Distribution Of marriages By Age At Marriage,12 Regions,Rural EthiopiA,1986/87



The pattern that is observed for all marriages holds also for first marriages (previously never married) and re-marriages (previously divorced or widowed). About 66.5 and 48.6 percent of females and males marry for the first time between the age group of 15-19 and 20-24 years, respectively. Almost all females contract their first marriages by the age group of 30-34 years while most males had their first marriage by the age group of 35-59 years. Unlike first marriages, re-marriages occur at higher ages since they take place after the death of spouses or after breakdown of marriages due to divorce. Figures 5.6 and 5.7 display these facts.

The median age at marriage for rural Ethiopia was calculated to be 25.6 years for male and 19.2 years for females. The median age varies from region to region with the highest median age for males of 32.9 in Illubabor while the lowest median age was estimated to be 22.4 in Gojjam. On the other hand, the highest median age for females was in Illubabor (23.2 years), while the lowest median age for females was in Gondar (17.4 years) (See Tables 5.7 and 5.7(a)).

Regarding re-marriages, there exist great variation between divorced and widowed males and females. Re-marriages of widowed persons occur relatively at higher ages while re-marriage of the divorced occur at earlier ages. The highest proportion of re-marriages by divorced females was in the age group 15-19 years while for the divorced males it takes place in the age group 25-29 years. The highest proportion of re-marriages by widowed females was observed in the age group 30-34 while for widowers it takes place in the age group 35-39 years.

The median ages at re-marriage of divorced males and females were 30.6 and 24.4 years, respectively. The median ages for the widowed males and females were 42.1 and 36.2, respectively (see Table 5.7 and 5.7(a)). The regional variation of the median age at re-marriage of the divorced and widowed males and females was also significant. The median age of remarriage of divorced females ranges from 28.0 years in Arssi to 19.6 years in Gondar. Similarly, the median age for males ranges from 37.3 in Wellega to 26.4 years in Gojjam. The median age for the widowers varies from highest, 49.2 in Wellega to lowest, 37.0 years, in Illubabor. The median age of females varied from highest (42.3) in Illubabor to lowest (28.0) in Arssi (see Table 5.7(a)).

e) Age-Sex Specific Marriage Rates

Age-sex specific marriage rates help us to identify the age at which the maximum frequency of marriages take place. This in

Figure 5.6 Percentage Distribution Of First Marriages By Age At First Marriage, 12 Regions, Rural Ethiopia,1986/87

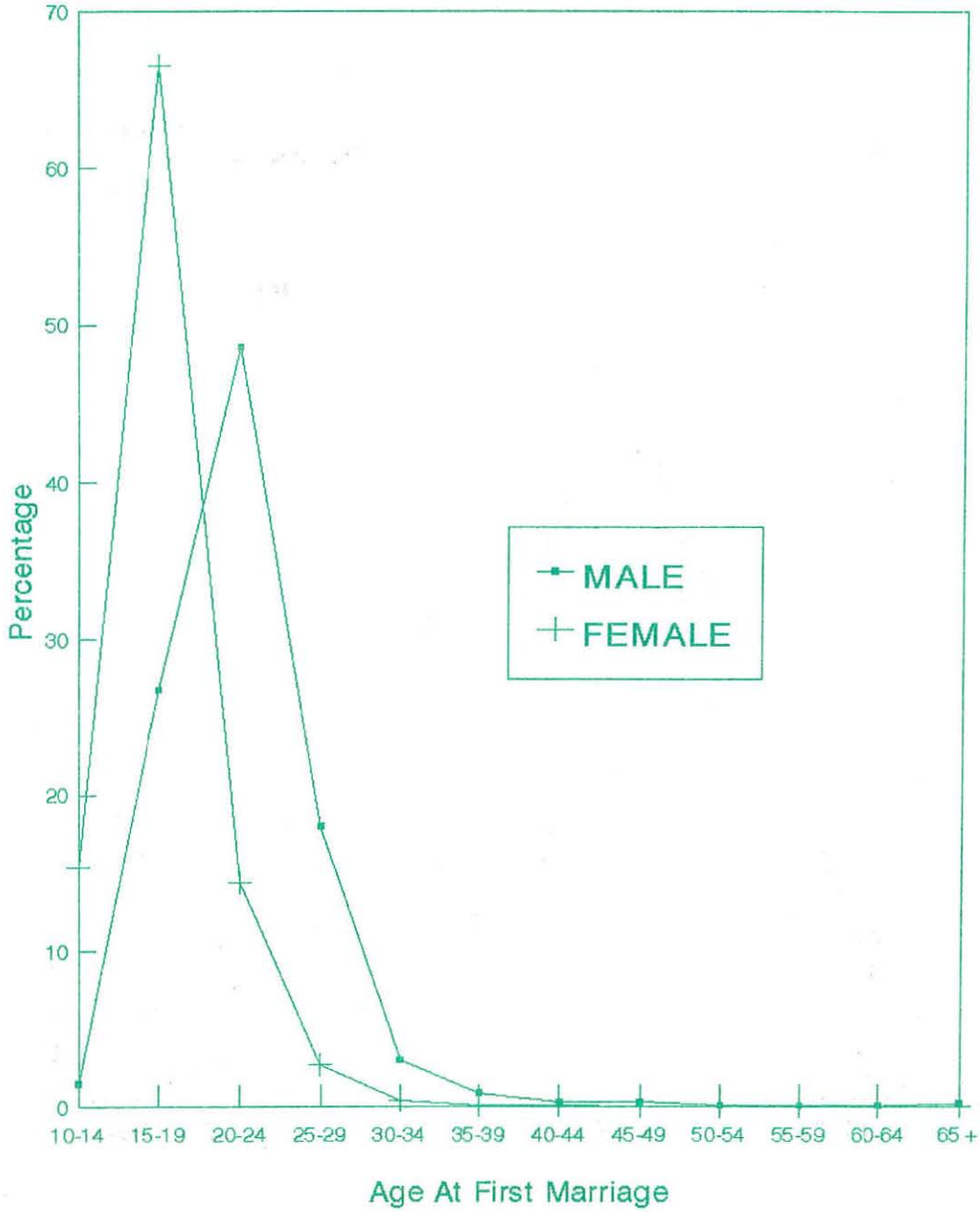


Figure 5.7 Percentage Distribution Of Remarriages Of Widowed And Divorced By Age At remarriage, 12 Regions,Rural Ethiopia,1986/87

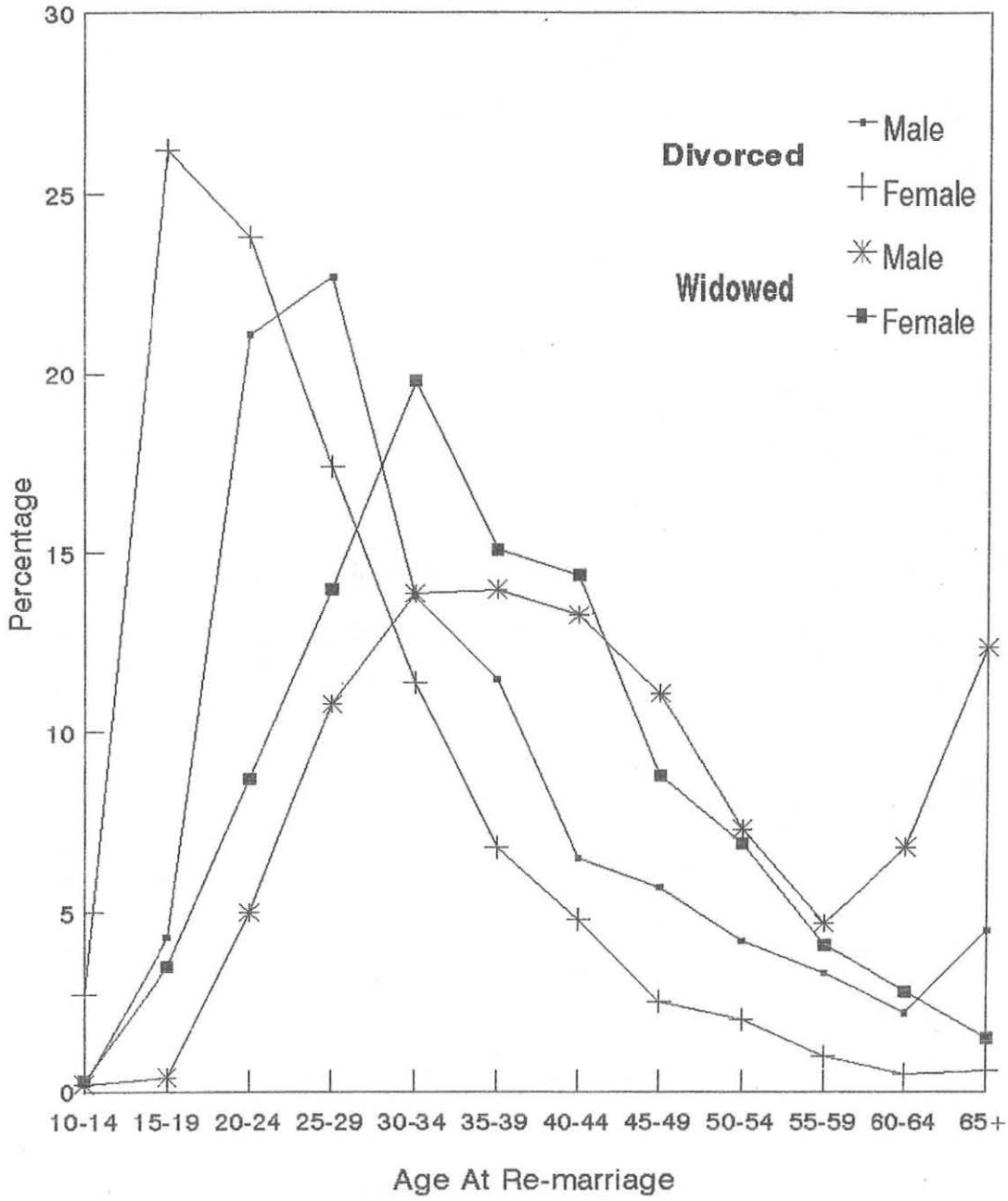


Table 5.7(a) Median Age Of Marriage By Previous Marital Status ,Sex And Region,Rural Ethiopia,1986/87

Region	Previous Marital Status															
	Single			married (b)	Divorced			Widowed			N/S			Total		
	M	F	T	M	M	F	T	M	F	T	M	F	T	M	F	T
Arssi	21.8	17.6	18.8	35.0	34.0	28.0	29.6	38.4	28.0	36.3	28.7	23.5	26.2	24.8	18.5	21.3
Bale	23.2	17.9	19.4	38.0	35.5	25.2	29.5	41.3	39.1	40.0	–	29.3	27.8	27.8	18.8	22.7
Gamo Goffa	22.6	19.1	20.9	33.2	29.3	26.7	27.7	40.7	32.6	34.8	–	28.0	28.0	24.4	21.0	22.9
Gojjam	18.9	16.2	17.5	26.3	26.4	20.5	23.8	40.6	37.4	38.5	24.4	19.7	22.2	22.4	18.0	19.7
Gondar	26.7	14.3	17.3	27.8	27.7	19.6	24.4	46.2	34.5	41.5	–	–	–	23.9	17.4	20.9
Hararge	23.1	18.1	20.3	36.6	32.9	27.1	28.8	37.3	30.7	33.9	37.5	27.2	27.5	24.9	19.3	22.7
Illubabor	22.6	18.0	19.4	39.4	33.7	24.6	31.0	37.0	42.3	39.2	28.0	27.5	27.5	32.9	23.2	27.9
Keffa	23.4	18.2	20.5	36.9	33.2	25.9	28.7	45.8	29.7	37.6	21.9	26.1	25.3	28.8	21.2	25.3
Shewa	22.9	17.8	19.6	36.7	34.5	26.8	30.0	43.2	40.8	42.2	29.0	25.8	26.2	25.8	18.9	22.4
Sidamo	22.2	18.5	20.0	34.4	30.6	24.4	26.6	42.0	35.9	37.0	–	27.3	27.3	25.4	19.7	22.6
Wellega	22.7	18.2	19.8	38.4	37.3	27.7	30.9	49.2	38.0	42.4	38.7	28.1	28.7	27.7	20.5	24.2
Wollo	24.4	16.72	19.3	39.56	35.8	25.7	30.3	41.3	42.0	41.9	60.2	27.5	27.9	28.4	19.4	24.6
Total	22.2	17.6	19.3	36.6	30.6	24.4	27.3	42.1	36.2	38.9	26.3	26.7	26.7	25.6	19.2	22.7

(b) Only Males Engage In Polygamous Marriages

turn indicates the more preferred ages to the entry into marital unions. It also reveals the variation in the age composition within the population of marriageable age. Tables 5.8 to 5.11 present age specific marriage rates in relation to the previous marital status of the marrying population.

Table 5.8 indicates that age specific gross marriage rate for males reaches its highest (103.9/1000) in the age group 20-24 years while for females it reaches its highest (88.3/1000) in the age group 15-19 years. The rates increase up to 15-19 years for females and up to 20-24 years for males and thereafter decline with advancing age.

This pattern holds true in all regions although the magnitude of the rates varies between regions. The rate of marriage for the males at age group 20-24 years ranges from highest 157.6 to lowest 68.3 in Gamo-Goffa and Sidamo, respectively. The rates for Wollo (157.1) and Hararge (136.3) were second and third highest in rank. The rate of marriage for the females at age group 15-19 years ranges from 140.9 to 56.0 in Wollo and Sidamo, respectively. The rates for Keffa (139.3) and Gojjam (117.5) take the second and the third place in ranking. At younger age groups (i.e., 10-14 and 15-19 years), the rate for females was higher than the rate for males while in the higher age group the rate for males was higher than the rate for females. This indicates that females marry at early age and males marry at late ages.

Table 5.8 also gives the Total Marriage Rate(TMR). Similar to total fertility rate, total marriage rate is calculated by summing the age-sex specific gross marriage rates (which combines first marriages and remarriages) by giving equal weight to each rate. Hence, the total marriage rate indicates total number of marriages by a cohort of one thousand males or females of marriageable age. According to the present data, the overall TMR for males and females in the age groups 10-65 years are found to be 1650 and 1175 per 1000 males and females, respectively. The figures indicate that the frequency of remarriage is high among males than females. Among the regions, TMR is highest in Wollo (2487 per 1000) followed by Keffa (2093 per 1000) and Illubabor (2046 per 1000) and lowest in Sidamo (827 per 1000) followed by Arssi (968 per 1000) and Shewa (988 per 1000) . The fact that TMR was higher among men than women also holds in every region (see Table 5.8)

Table 5.8 Age-Sex Specific Marriage Rates (per 1000) By Region, Rural Ethiopia, 1986/87

Age Group At Marr-iage	Sex	Arssi	Bale	Gamo Goffa	Gojjam	Gondar	Hararge	Illu-babor	Keffa	Shewa	Sidamo	Wellega	Wollo	Total
10-14	M	0.4	0.1	0.6	4.1	5.2	-	1.2	-	0.3	0.1	1.6	0.9	1.1
	F	8.1	4.4	1.4	44.1	53.7	1.0	9.0	5.2	8.6	0.3	2.3	34.3	14.2
	T	3.8	2.1	1.0	22.5	28.5	0.5	4.9	2.4	4.3	0.2	2.0	17.0	7.3
15-19	M	14.7	18.1	26.5	85.0	41.4	12.6	19.9	15.3	17.9	12.3	18.7	21.8	7.7
	F	90.3	109.9	98.8	117.6	79.4	107.3	95.1	139.3	65.9	56.0	64.4	140.9	88.3
	T	39.8	62.5	60.6	102.5	61.1	55.8	53.9	72.3	41.2	31.8	42.7	77.5	55.0
20-24	M	71.2	104.1	157.6	129.1	134.3	136.3	77.2	145.3	71.9	68.3	79.2	157.1	103.9
	F	35.1	49.4	91.9	37.2	34.5	50.9	68.4	76.6	37.7	45.9	48.1	70.5	48.7
	T	54.8	73.1	120.2	78.5	83.3	89.5	72.7	106.8	53.9	55.8	63.0	112.5	74.4
25-29	M	42.9	63.9	71.1	46.2	69.0	56.8	60.5	101.9	53.1	36.2	52.0	119.9	60.2
	F	19.2	13.7	33.4	22.2	22.6	24.1	32.0	43.5	14.2	13.5	27.2	41.0	23.2
	T	29.4	32.2	49.3	33.8	45.0	37.5	44.2	65.9	30.2	23.1	37.8	76.8	39.1
30-34	M	26.9	38.2	27.7	29.4	33.5	32.3	54.3	61.8	26.7	25.7	33.6	71.3	35.2
	F	10.1	8.2	18.1	15.9	18.5	18.2	41.5	32.1	8.0	5.2	15.8	31.5	16.0
	T	17.3	19.8	22.4	22.2	25.4	24.7	46.8	44.1	15.9	13.6	23.6	47.4	24.2
35-39	M	20.9	28.0	23.8	18.1	22.9	24.1	67.5	42.6	16.2	17.3	24.8	59.4	25.8
	F	4.7	8.5	7.5	10.4	13.4	6.8	32.5	18.6	6.1	4.8	18.3	18.5	10.6
	T	12.3	16.7	15.3	14.3	18.3	16.3	48.8	29.4	10.8	10.4	21.5	37.0	17.8
40-44	M	14.0	29.0	18.1	18.4	12.3	16.4	52.6	39.3	13.2	12.6	26.3	41.9	21.1
	F	7.7	2.5	2.9	9.4	10.4	4.6	28.0	13.4	5.3	2.7	17.7	24.6	9.9
	T	10.7	10.9	10.4	13.7	11.3	10.9	39.6	25.4	9.0	7.4	21.7	31.8	15.1
45-49	M	11.4	18.0	13.3	12.4	21.7	16.1	45.7	49.8	9.7	11.1	27.6	32.5	19.6
	F	2.0	3.1	5.4	9.4	8.3	3.9	15.4	5.7	4.2	2.4	12.3	24.8	8.1
	T	7.0	10.7	9.7	11.0	16.1	10.7	30.8	29.4	7.1	6.8	20.3	28.6	14.1

Table 5.8 (Cont.)

Age Group At Marr-iage	Sex	Arssi	Bale	Gamo Goffa	Gojjam	Gondar	Hararge	Illu-babor	Keffa	Shewa	Sidamo	Wellega	Wollo	Total
50–54	M	17.8	13.8	12.9	15.6	15.9	10.9	34.1	32.0	11.3	6.4	19.9	31.8	16.8
	F	0.8	3.5	2.3	8.1	7.5	1.2	21.0	12.0	2.9	0.6	5.6	14.5	6.2
	T	9.0	8.3	7.8	11.8	11.2	6.0	27.3	20.1	6.9	3.6	12.5	21.9	11.3
55–59	M	13.1	12.3	7.0	13.4	16.5	6.0	22.0	5.7	9.1	10.8	21.7	29.1	14.3
	F	16.2	–	1.8	7.8	7.6	–	8.0	6.6	3.7	0.8	9.8	9.7	5.2
	T	0.7	6.8	4.5	11.1	13.1	3.0	15.7	6.2	6.5	6.6	15.9	20.0	10.1
60–64	M	6.8	6.4	8.8	15.5	15.4	9.2	11.0	12.6	10.7	3.8	20.8	17.3	11.9
	F	–	1.1	–	2.4	2.4	–	6.9	2.5	3.4	–	2.3	6.5	2.8
	T	3.6	3.7	4.6	9.1	9.4	4.7	8.8	7.4	6.9	2.2	11.1	11.5	7.4
65+	M	7.9	9.2	5.7	11.5	10.2	1.4	28.1	15.8	7.3	6.1	22.9	27.8	12.4
	F	0.4	–	2.0	2.1	–	–	0.5	1.8	2.1	–	6.7	1.0	1.8
	T	4.9	5.2	4.1	7.4	5.9	0.8	15.7	9.3	5.0	3.9	15.6	15.5	7.8
N/S	M	–	–	–	162.0	54.7	–	139.8	–	10.8	62.2	522.4	17.7	25.4
	F	37.7	–	–	283.7	945.0	111.6	765.6	25.7	17.9	319.9	87.7	45.6	74.1
	T	23.5	–	–	234.0	464.1	35.6	276.5	12.5	14.3	158.4	197.7	31.7	49.4
Total	M	18.3	23.0	33.3	39.8	35.6	26.3	34.8	39.8	19.3	16.7	25.3	44.7	27.8
	F	21.8	20.9	32.3	39.2	35.6	26.9	34.0	36.9	18.4	16.7	23.9	41.5	27.1
	T	19.9	21.9	32.8	39.5	35.6	26.6	34.3	38.3	18.8	16.7	24.6	43.0	27.5
TMR	M	1240.0	1705.5	1865.5	1993.5	1991.5	1610.5	2370.5	2610.5	1237.0	1053.5	1745.5	3054.0	1650.0
	F	973.0	1021.5	1328.0	1433.0	1291.0	1090.0	1791.5	1786.5	810.5	661.0	1152.5	2089.0	1175.0
	T	968.0	1260.0	1549.5	1689.5	1643.0	1348.5	2046.0	2093.5	988.5	827.0	1438.5	2487.5	1418.0

f) Age-Sex Specific First Marriage Rates

This section refers to age-sex specific marriage rates of those who were marrying for the first time. The data shows that the first marriage rate for males was highest (168.4 per 1000) in the age-group 25-29 while for females the peak (217.9 per 1000) was in age group 20-24 (see Table 5.9). The age pattern of first marriage that was observed for the rural Ethiopia as a whole also holds for all regions, except for Arsi, Gojam, Gondar, Illubabor and Sïdamo where the peak for the male was in age group 20-24 and Gojjam, Gondar, and Wollo where the peak for the female was in age group 15-19 years.

Table 5.9 also gives Total First Marriage Rates (TFMR) for age groups 10 - 65 years and over by sex and region. Unlike TMR, TFMR is obtained by summing the age specific first marriage rates. TFMR indicates the number of males or females who were never married previously and who will eventually marry for the first time per 1000 males or females in a population if the current age specific first marriage rates prevailed. Accordingly, the overall TFMR calculated for males and females of marriageable age turn out to be 761 and 617 per 1000 males and females, respectively. The figures indicate that the chance of marrying is higher among males than females.

Among the regions, Gamo Goffa had highest TFMR (981 per 1000) followed by Wollo (977 per 1000) and Keffa (869 per 1000) and Sidamo has the lowest (441 per 1000) followed by Gondar (557 per 1000) and Arsi (574 per 1000). In all the regions, except Arssi and Illubabor, TFMR is higher for males than females. TFMR for Gamo Gofa, Wollo and Kefa, in particular, indicate that almost all males and females of marriagable age contract their first marriages before they attain age 65 years.

As indicated earlier in sub-section (a) of section 5.1, marriage is universal and the degree of celibacy is one percent in Ethiopia. However, the TFMR values observed in Table 5.9 are lower than expected. It is expected that the TFMR values should be between 900 and 1000 for all regions, (as observed in Gamo Goffa and Wollo) and the total rural areas so as to be compatible with the observed universality of marriage in the rural areas. Nevertheless, the observed low values could be mainly due to the incompletness of marriage registration. In the light of this situation, the figures observed for TFMR should be considered with caution.

Table 5.9 Age-Sex Specific First Marriage Rates (per 1000) By Region,Rural Ethiopia, 1986/87

Age Group At At Marr-iage	Sex	Arssi	Bale	Gamo Goffa	Gojjam	Gondar	Hararge	Illu-babor	Keffa	Shewa	Sidamo	Wellega	Wollo	Total
10-14	M	0.4	0.1	0.6	3.9	5.3	-	0.8	-	0 3	-	0.6	0.9	5.5
	F	8.0	4.5	1.4	50.5	64.1	1.0	8.0	4.8	8.8	0.3	2.0	37.4	13.7
	T	3.8	2.1	1.0	22.6	28.8	0.5	4.2	2.2	4.3	0.1	1.3	17.4	6.3
15-19	M	21.8	18.2	27.3	108.9	44.4	12.9	18.5	12.3	17.8	12.1	18.5	21.3	25.4
	F	162.2	171.1	134.0	389.5	140 2	160.9	146.8	198.8	89.2	70.9	78.6	250.2	128.1
	T	62.6	75.4	70.5	174.7	67.9	67.0	60.4	76.5	46.2	34.2	45.7	83.0	62.3
20-24	M	136.6	155.6	329.4	435.7	260.9	230.5	94.8	207.8	101.6	119.9	105.6	201.7	161.3
	F	344.7	398.1	573.0	82.8	49.9	333.7	205.6	362.4	469.0	350.7	138.8	200.6	217.9
	T	158.0	193.0	396.6	353.1	220.1	248.5	110.2	233.7	111.9	159.5	113.9	201.6	172.6
25-29	M	115.8	192.1	385.9	159.5	172.8	235.9	84.4	244.8	142.3	97.6	123.5	261.3	168.4
	F	320.4	97.0	359.8	49.7	12.4	239.1	304.3	395.1	84.0	59.4	144.0	164.0	146.1
	T	133.7	179.0	380.5	126.9	135.7	236.3	114.2	270.7	131.4	92.1	126.5	248.3	164.7
30-34	M	74.4	83.7	117.6	47.8	32.1	111.5	41.6	145.7	95.4	99.5	110.4	207.9	105.9
	F	70.7	20.3	22.0	-	55.0	71.0	252.3	110.2	42.9	-	109.8	44.4	52.1
	T	73.8	69.4	88.8	22.8	43.7	105.7	71.5	138.8	83.3	71.1	110.4	162.7	93.2
35-39	M	68.3	30.8	67.9	87.4	-	95.6	106.4	11.7	86.7	29.1	45.4	216.1	75.9
	F	-	43.8	-	14.4	-	61.5	-	-	20.9	13.1	-	120.4	18.6
	T	61.3	35.1	47.3	51.6	-	89.3	75.8	10.1	68.7	20.2	39.7	199.1	59.5
40-44	M	13.7	315.8	-	19.1	-	-	40.5	23.6	27.3	-	121.6	79.3	12.9
	F	-	-	71.6	-	10.2	-	86.3	-	8.2	-	-	-	11.4
	T	8.4	204.7	34.3	21.1	5.8	-	55.9	14.6	20.5	-	111.3	58.6	27.4
45-49	M	-	51.1	128.3	-	-	90.5	71.2	-	27.0	96.1	29.9	430.0	56.3
	F	-	-	-	-	-	-	87.7	-	26.6	-	-	-	12.2
	T	-	33.8	74.1	-	-	49.4	76.5	-	26.9	44.2	24.5	267.5	39.8

Table 5.9 (Cont.)

Age Group At Marriage	Sex	Arssi	Bale	Gamo Goffa	Gojjam	Gondar	Hararge	Illu-babor	Keffa	Shewa	Sidamo	Wellega	Wollo	Total
50–54	M	344.7	166.7	–	–	–	–	29.5	105.3	40.5	–	61.4	–	41.4
	F	–	–	–	–	–	–	85.5	–	–	–	–	77.3	12.7
	T	241.8	83.3	–	–	–	–	43.9	52.9	22.5	–	44.3	43.3	28.3
55–59	M	–	–	–	–	–	–	–	–	17.8	–	74.4	546.2	38.8
	F	–	–	–	–	–	–	–	–	36.1	–	–	–	7.8
	T	–	–	–	–	–	–	–	–	23.9	–	43.4	201.1	25.7
60–64	M	–	–	–	14.0	14.0	–	27.0	167.9	–	–	–	–	27.5
	F	–	–	–	–	–	–	–	–	–	–	–	–	–
	T	–	–	–	6.9	6.9	–	20.8	97.2	–	–	–	–	13.0
65+	M	10.0	–	74.0	12.8	21.2	–	96.5	28.3	25.4	–	49.3	–	27.5
	F	–	–	–	27.9	–	–	–	–	9.3	–	–	–	4.5
	T	57.9	–	49.9	24.5	13.6	–	55.4	24.6	12.4	–	27.3	–	16.9
Total	M	24.8	27.4	51.3	58.5	41.0	37.3	24.7	38.7	25.7	18.9	26.5	46.0	32.7
	F	57.2	55.9	76.0	111.4	81.2	61.6	57.7	72.2	41.7	35.0	38.3	92.0	57.0
	T	36.6	39.1	61.9	77.1	54.7	47.1	37.1	52.9	32.4	25.4	31.7	62.5	42.3
TFMR	M	614	876	998	791	688	899	561	895	686	494	703	995	761
	F	652	810	945	627	454	786	667	892	539	455	494	876	617
	T	574	772	981	680	557	828	586	869	581	441	594	977	655

g) Age-sex Specific Re-marriage Rates

Remarriage rate by age and sex for the divorced and widowed population are presented in Table 5.10 and 5.11. The rates explain some major features of re-marriage pattern. For example, the remarriage rate of divorced females was higher in younger age group while the rate for the divorced males was higher at older age group. Specifically, the remarriage rate of the divorced males was higher than that of the females at the age group 20-24 and above (see Table 5.10). Quite a substantial proportion of divorced men continue to marry until they reach age 65 years and above, while divorced females continue to marry only until they reach the age of nearly 39 years then the rate of re-marriage drops. However, when we observe the rates for each region, the above phenomena are not always true. The pattern lacks consistency from region to region. For instance, in Arsi, divorced females dominate divorced males in remarrying up to age group 40-44 years. Similar situations were observed in other few regions (see Table 5.10).

The remarriage rate of the divorced persons was higher than the widowed persons. This could be due to the fact that widowed persons may be older and also more likely to have many children that act as a hindrance from getting re-married. The remarriage rate of the widowers was observed to be higher than that of the widowed except in age group 10-19 years. This is mainly because men marry at later ages of 20 - 24 and there is always a minimum of 5 years difference between both sexes in age at marriage. Similar to re-marriage rate of the divorced, the remarriage rates of the widows drop at early age than the remarriage rate of the widowers. The over all pattern which was observed in rural Ethiopia was also true for all regions with the exception of few. (see Tables 5.10 and 5.11).

h) Differentials In Age At First Marriage

The median age at first marriage measures the socially preferred age at which a woman and a man enter a marital union. The median age at first marriage of males and females by region are presented in Table 5.12. The median age was about 22.2 years for males and 17.6 years for females for the rural Ethiopia. The median age at first marriage for females (brides) was highest in Gamo Goffa (19.1 years) and lowest in Gondar (14.3 years). The second and third positions were occupied by Sidamo (18.5 years) and Keffa (18.2 years). The median age for males (grooms) was

Table 5.10 Age-Sex Specific Remarriage Rates (per 1000) Of The Divorced By Region,Rural Ethiopia, 1986/87

Age Group At Marr-iage	Sex	Arssi	Bale	Gamo Goffa	Gojjam	Gondar	Hararge	Illu-babor	Keffa	Shewa	Sidamo	Wellega	Wollo	Total
10-14	M	-	-	-	27.4	77.2	-	-	-	-	-	938.5	-	41.3
	F	-	-	-	71.8	251.3	-	210.5	-	41.6	-	373.6	88.9	112.7
	T	-	-	-	66.3	243.2	-	194.4	-	30.1	-	527.2	83.5	103.9
15-19	M	202.2	-	509.1	91.0	595.0	387.8	609.8	206.5	245.5	87.3	544.2	444.2	136.9
	F	342.6	398.7	484.1	216.7	342.3	151.6	484.4	917.2	145.0	533.6	662.6	325.1	278.9
	T	329.0	355.3	488.3	175.2	360.0	160.5	491.9	841.6	152.9	770.0	692.9	329.5	249.0
20-24	M	221.4	177.6	423.3	289.7	872.6	419.9	226.6	193.9	172.6	108.5	473.9	583.1	351.1
	F	343.2	293.9	842.2	199.7	209.8	294.6	603.2	591.1	135.4	775.6	480.1	313.1	82.3
	T	308.3	266.5	657.6	245.7	427.8	320.4	484.4	504.0	144.1	417.5	479.8	378.7	307.2
25-29	M	219.7	157.1	431.5	353.6	739.1	211.4	222.4	424.1	148.9	167.6	430.0	613.0	354.6
	F	343.2	293.2	711.3	152.6	169.3	388.3	275.4	376.1	110.7	430.8	449.0	242.0	229.7
	T	302.1	230.9	573.3	239.4	369.0	320.2	248.2	391.7	123.7	692.6	443.0	369.6	279.0
30-34	M	151.5	345.7	134.5	419.3	737.2	189.3	244.3	438.5	156.7	177.1	367.4	513.1	313.1
	F	389.3	196.0	658.1	118.8	127.8	329.5	539.0	538.5	96.8	206.3	272.3	226.6	200.3
	T	269.0	258.7	304.9	210.3	258.7	253.6	415.6	494.3	118.3	190.6	309.9	323.1	243.0
35-39	M	141.5	220.0	219.9	318.1	637.1	306.1	176.1	408.6	157.2	98.3	211.8	805.1	304.5
	F	187.5	113.4	149.8	67.0	105.5	120.1	528.4	339.6	89.6	241.2	320.3	115.3	136.4
	T	164.5	156.5	182.1	131.0	232.9	226.7	347.1	366.3	114.1	152.7	257.6	290.3	198.2
40-44	M	166.2	176.5	145.4	386.3	371.3	93.1	124.3	200.9	90.6	94.5	117.8	767.0	220.2
	F	202.4	77.5	37.4	51.8	61.1	76.1	361.3	148.1	52.2	100.7	219.6	143.2	96.9
	T	189.1	115.2	84.8	115.7	107.6	85.6	238.5	169.7	65.5	97.4	170.6	261.4	35.9
45-49	M	39.7	84.0	76.0	382.6	905.1	121.0	234.6	361.6	130.8	86.3	379.8	609.8	290.4
	F	6.5	23.8	51.6	48.8	49.1	40.9	112.9	34.5	26.0	67.7	207.0	161.0	68.9
	T	17.4	50.2	63.3	102.0	176.3	76.0	160.4	192.8	55.1	76.7	281.0	273.1	132.8

Table 5.10 (contd.)

Age Group At Marr-iage	Sex	Arssi	Bale	Gamo Goffa	Gojjam	Gondar	Hararge	Illu-babor	Keffa	Shewa	Sidamo	Wellega	Wollo	Total
55–59	M	47.2	115.4	143.5	348.5	546.5	57.6	91.0	145.1	129.5	102.0	21.0	566.9	206.9
	F	29.8	–	–	25.3	22.9	–	23.7	35.2	27.9	32.5	163.0	24.7	42.1
	T	36.5	29.0	68.5	82.0	100.2	22.7	55.3	56.7	55.6	69.9	103.8	106.2	81.9
60–64	M	30.0	68.3	94.0	286.2	222.6	35.1	14.1	–	95.8	28.9	36.4	311.0	122.7
	F	–	–	–	9.2	6.4	–	–	17.3	9.2	–	41.0	27.3	13.5
	T	9.9	16.5	35.5	50.2	48.9	18.2	3.2	15.1	30.9	13.2	38.6	62.0	39.1
65+	M	74.0	75.4	84.7	119.4	92.4	–	58.9	75.4	33.5	111.9	115.9	335.4	104.5
	F	–	–	–	6.8	–	–	–	–	5.9	–	98.6	3.2	9.0
	T	34.0	28.7	48.5	35.4	27.6	–	25.8	3.3	16.2	57.7	106.2	85.8	41.3
Total	M	119.2	160.3	216.8	250.9	616.9	174.3	164.2	296.1	120.2	120.7	200.8	568.6	258.8
	F	169.5	121.4	315.3	120.4	153.6	208.0	304.6	310.6	71.8	291.1	295.6	158.2	152.9
	T	150.7	133.8	268.5	161.8	248.0	193.6	248.0	306.2	86.3	200.7	256.9	246.5	186.0

Table 5.11 Age-Sex Specific Remarriage Rates (per 1000) Of The Widowed By Region,Rural Ethiopia, 1986/87

Age Group At Marriage	Sex	Arssi	Bale	Gamo Goffa	Gojjam	Gondar	Hararge	Illu-babor	Keffa	Shewa	Sidamo	Wellega	Wollo	Total
10-14	M	-	-	-	-	-	-	756.8	-	-	-	-	-	24.7
	F	-	-	-	-	-	-	-	-	-	-	-	241.0	36.4
	T	-	-	-	-	-	-	383.6	-	-	-	-	191.8	31.0
15-19	M	-	-	-	-	300.0	-	1000.0	-	-	-	-	-	40.8
	F	474.4	-	-	63.7	-	93.9	282.1	222.2	184.0	-	-	433.3	147.6
	T	225.6	-	-	46.4	110.1	87.5	423.1	161.8	139.1	-	-	354.0	115.8
20-24	M	300.5	352.9	111.1	174.7	325.4	566.6	262.7	865.4	48.7	44.9	500.0	588.8	258.4
	F	-	213.2	203.5	77.1	222.8	447.4	237.1	595.7	59.1	57.7	78.1	-	154.5
	T	107.9	281.7	168.0	93.6	408.1	474.8	248.4	623.0	56.2	54.4	114.0	71.4	179.1
25-29	M	926.4	78.3	44.3	377.4	781.5	260.5	115.8	190.7	170.3	237.4	189.6	342.3	232.9
	F	140.2	-	109.4	63.7	124.3	233.2	37.6	196.3	61.1	58.4	172.4	128.0	110.6
	T	242.4	20.1	84.3	128.4	204.1	224.2	62.2	194.1	84.1	103.5	176.7	157.3	141.1
30-34	M	466.7	298.6	42.7	385.3	840.6	367.3	416.0	75.1	75.3	88.5	114.4	436.4	246.7
	F	-	45.1	122.1	36.7	68.3	166.0	242.5	369.2	26.7	14.8	68.7	159.8	93.6
	T	68.1	107.3	98.5	85.8	161.1	232.6	296.6	307.1	35.3	28.1	74.1	252.9	123.3
35-39	M	238.9	153.8	64.4	143.2	214.6	209.2	263.5	342.4	144.8	17.8	193.3	847.0	202.0
	F	9.9	26.9	27.1	47.6	35.5	58.3	52.2	157.1	13.4	15.9	122.0	53.3	47.0
	T	64.9	42.2	35.4	61.3	62.7	105.0	129.8	191.4	27.4	16.1	132.0	111.9	72.4
40-44	M	299.1	78.4	82.7	175.1	229.9	139.2	80.6	282.4	216.3	45.8	170.5	160.6	155.7
	F	8.1	11.8	-	26.0	33.7	14.0	88.2	61.1	13.1	8.3	62.6	70.4	28.5
	T	41.3	20.6	20.9	41.8	57.1	42.5	85.6	81.7	31.1	11.6	79.8	78.5	45.4
45-49	M	132.5	195.5	38.6	69.8	663.2	153.2	77.7	272.5	65.0	20.4	238.2	25.8	126.1
	F	8.2	13.7	10.0	13.3	5.0	7.6	52.7	26.0	9.5	5.4	26.9	55.2	17.1
	T	29.6	34.4	15.0	18.5	62.4	30.8	58.4	62.7	15.0	6.8	71.8	51.3	31.6

Table 5.11 (contd.)

Age Group At Marriage	Sex	Arssi	Bale	Gamo Goffa	Gojjam	Gondar	Hararge	Illu-babor	Keffa	Shewa	Sidamo	Wellega	Wollo	Total
55–59	M	95.1	74.6	13.8	98.0	214.0	13.7	–	67.9	7.9	–	97.3	151.6	57.7
	F	–	–	4.4	12.4	17.3	–	26.6	12.3	2.1	–	5.5	21.5	6.6
	T	10.6	8.1	5.8	14.8	42.9	1.7	20.5	17.4	2.6	–	19.7	34.1	12.0
60–64	M	32.1	–	–	107.9	216.6	34.8	51.3	43.4	34.1	–	117.3	164.2	59.2
	F	–	2.6	–	7.7	3.4	–	19.5	2.0	5.5	–	–	21.5	2.8
	T	3.6	2.4	–	14.9	20.3	4.8	23.7	4.0	7.7	–	12.8	34.1	8.1
65+	M	5.1	11.1	2.4	20.0	35.5	5.3	58.4	66.7	22.3	11.8	76.9	28.3	29.5
	F	0.5	–	–	–	–	–	0.5	2.2	1.4	–	–	0.4	0.6
	T	0.8	1.3	0.6	3.5	6.1	0.9	6.5	10.6	4.2	1.4	10.4	3.2	4.5
Total	M	114.9	62.4	24.7	86.4	172.2	111.4	113.4	158.0	52.5	43.6	112.7	126.6	91.2
	F	6.7	6.5	12.4	11.0	14.3	19.7	32.5	41.7	7.7	4.7	20.3	21.4	15.2
	T	22.2	12.9	15.1	20.9	36.2	36.4	47.7	55.6	12.7	8.9	33.6	31.1	25.2

highest in Wollo (24.4 years) and lowest in Gojjam (18.9 years). Keffa (23.4 years) and Bale (23.2 years) occupy second and third position, respectively.

Differences in age at first marriage between females and males reflect marriage customs and demographic conditions. The diffrence between the median age at first marriage of the groom and the bride is recorded to be higher in Africa compared to the rest of the world. In half of the African countries, (including Ethiopia) age differences at first marriage range between 5.2 and 7.5 years (UN, 1988). However, this study obtained a slightly lower median age difference at first marriage (4.6 years). However, the median age differences between bride and groom estimated for Wollo (7.7), Gondar (6.4), Bale (5.3), Keffa (5.2) and Shewa (5.1) meet the African standard.

Table 5.12 Median Age at First Marriages By Sex and Region, Rural Ethiopia, 1986/87

Region	Median Age		
	Groom	Bride	Age Difference
Arssi	21.8	17.6	4.1
Bale	23.2	17.9	5.3
Gamo Goffa	22.6	19.1	3.5
Gojjam	18.9	16.2	2.7
Gondar	20.7	14.3	6.4
Hararge	23.1	18.1	4.9
Illubabor	22.6	18.0	4.6
Keffa	23.4	18.2	5.2
Shewa	22.9	17.8	5.1
Sidamo	22.2	18.5	3.7
Wellega	22.7	18.2	4.5
Wollo	24.4	16.7	7.7
Total	22.2	17.6	4.6

i) Seasonality of marriage

The distribution of marriages by month shows a marked seasonal variation. Table 5.13 and Figure 5.8 present the percent distribution of marriages by month and region of occurrence. Table 1.2 of Chapter I gives the Ethiopian and the corresponding Gregorian months in a year. The highest number of marriages occurred in the month of Yekatit (16.1%) followed by the months of Miazia (12.6%), Tir (10.1%), Hamle (9.5%) and Ginbot (9.5%) (see Fig. 5.8).

As Table 5.13(a) indicates, the above mentioned pattern is also reflected clearly when seasonality index is employed. In the computation of the seasonality index, it is assumed that the chance of marriage in any one month of the year is equal. This assumption implies that if there is no seasonality variation, the index is expected to be 1 (or 100 if multiplied by 100). The resulting seasonality indices reveal that the months after harvest and fasting are more preferred seasons for marriage i.e., Yekatit, Miazia, Tir, Hamle, Ginbot are favoured months in that order. However, there are great variations in the preference of months for marriage among the regions. Hamle in Arssi and Illubabor; Tahsas in Bale; Ginbot in Gamo Goffa; Miazia in Gojjam; Yekatit in Gondar, Hararge, Keffa, Shewa and Wollo; Tir in Sidamo and Megabit in Wellega are the most preferred months of marriage.

Regarding the religious groups, the highest number of marriages among Christians and Muslims occurred in the month of Yekatit i.e. 19.0 and 13.0 percent, respectively. On the other hand, the months of Megabit (10.9%) and Ginbot (10.9%) were found to be peak months of marriages for 'other' religious groups. The second and third highest number of marriages occurred in the months of Miazia and Ginbot for Christians. The second and third preferred months for Muslims were Megabit and Hamle. Yekatit (9.8%) and Hamle (10.3%) are also the second and third preferred months for 'other' religious groups (see Table 5.14).

Table 5.13 Numerical And Percentage Distribution Of Marriages By Month And Region, Rural Ethiopia, 1986/87

Month Of Marriage	No. %	Arssi	Bale	Gamo Goffa	Goj jam	Gon dar	Hara rge	Illu-babor	Keffa	Shewa	Sida mo	Welle ga	Wollo	Total
Meskerem	No.	336	416	660	453	380	1272	855	1850	2028	1225	469	1393	11337
	%	3.0	8.9	5.1	1.0	1.6	5.4	7.2	7.4	4.3	5.6	2.1	3.6	4.0
Tikimt	No.	488	201	762	814	148	1352	685	1759	2357	1022	929	2157	12674
	%	4.3	4.3	5.9	1.8	0.6	5.7	5.8	7.0	5.0	4.7	4.3	5.6	4.4
Hidar	No.	497	501	1084	1406	544	2990	1286	2010	3107	1998	1931	2201	19555
	%	4.4	10.8	8.3	3.2	2.3	12.6	10.9	8.0	6.6	9.2	8.9	5.7	6.8
Tahsas	No.	605	692	837	1383	494	2862	986	1141	2651	2113	1249	1162	16175
	%	5.4	14.9	6.4	3.1	2.1	12.0	8.3	4.5	5.7	9.7	5.7	3.0	5.7
Tir	No.	995	599	1080	4095	1212	3006	1210	2318	5800	2976	1865	3656	28812
	%	8.8	12.9	8.3	9.2	5.2	12.6	10.2	9.2	12.4	13.7	8.6	9.5	10.1
Yekatit	No.	965	477	1205	7778	9263	3692	1207	3205	6088	2530	2588	7093	46091
	%	8.6	10.2	9.3	17.5	39.7	15.5	10.2	12.7	13	11.6	11.9	18.4	16.1
Megabit	No.	888	296	1125	3331	1142	1921	714	2622	3780	2185	3011	5267	26282
	%	7.9	6.4	8.7	7.5	4.9	8.1	6.0	10.4	8.1	10.0	13.8	13.4	9.2
Miazia	No.	1439	372	825	10994	3289	1087	798	3161	5619	1553	2703	4162	36002
	%	12.8	8.0	6.4	24.7	14.1	4.6	6.8	12.6	12.0	7.1	12.4	10.8	12.6
Ginbot	No.	1045	186	1609	7265	2432	841	907	1669	4407	2327	1947	2582	27217
	%	9.3	4.0	12.4	16.4	10.4	3.5	7.7	6.6	9.4	10.7	8.9	6.7	9.5
Sene	No.	1190	299	911	2466	2087	1724	894	2247	3939	1371	1692	2521	21341
	%	10.6	6.4	7.0	5.6	8.9	7.3	7.6	8.9	8.4	6.3	7.8	6.6	7.5
Hamle	No.	1815	429	1564	3299	1789	1769	1597	2314	3777	1568	2755	4530	27206
	%	16.1	9.2	12	7.4	7.7	7.4	13.5	9.2	8.1	7.2	12.6	11.8	9.5
Nahase	No.	988	190	1328	1139	555	1247	677	870	3220	916	647	1754	13531
	%	8.8	4.1	10.2	2.6	2.4	5.2	5.7	3.5	6.9	4.2	3.0	4.6	4.7
Total	No.	11251	4658	12990	44423	23335	23763	11816	25166	46773	21784	21786	38478	286223
	%	100	100	100	100	100	100	100	100	100	100	100	100	100

N.B. The Month Of Pagume And The N.S. Cases Are Excluded

Figure 5.8 Percentage Distribution Of Marriages By Month, 12 Regions, Rural Ethiopia, 1986/87

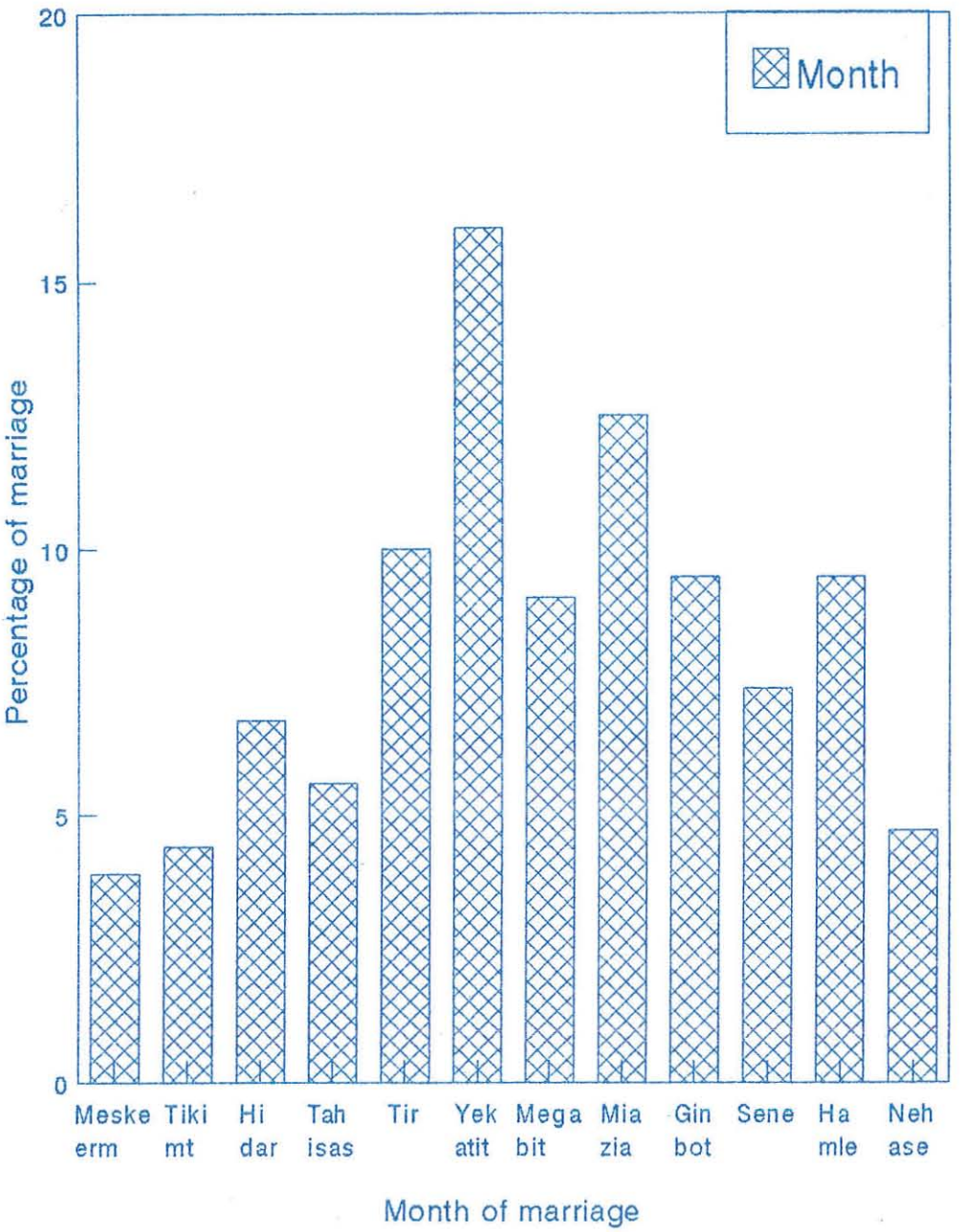


Table 5.13(a) Seasonality Index Of Marriages By Month And Region,Rural Ethiopia,1986/87

Month Of Marriage	Arssi	Bale	Gamo Goffa	Goj jam	Gon dar	Hara rge	Illu-babor	Keffa	Shewa	Sidamo	Wel lega	Wollo	Total
Meskerem	35.8	107.1	61.0	12.2	19.5	64.2	86.8	88.2	51.8	67.4	25.8	43.4	47.0
Tikimt	52.0	51.9	70.4	21.9	7.6	68.2	69.5	83.9	60.2	56.2	51.2	67.2	52.8
Hidar	53.0	129.0	100.1	37.8	27.9	151.4	130.9	95.8	79.4	109.9	106.4	68.6	81.3
Tahsas	64.4	178.2	77.3	37.2	25.3	144.4	100.1	54.4	67.7	116.3	68.8	36.2	66.9
Tir	106.0	154.3	99.8	111.2	61.1	151.7	123.1	110.6	149.2	164.9	102.7	114.0	120.4
Yekatit	102.8	122.9	111.3	210.6	476.9	186.8	122.7	152.8	156.7	139.6	142.6	221.5	195.9
Megabit	94.7	76.3	104.0	89.7	58.5	96.9	72.5	125.0	96.6	120.2	165.9	164.3	110.1
Miazia	153.8	95.8	76.2	297.1	169.7	54.9	80.9	150.7	144.5	85.4	148.9	129.8	152.0
Ginbot	111.3	47.9	148.6	196.6	125.6	42.4	92.0	79.6	113.6	128.0	107.2	80.5	113.8
Sene	126.8	77.1	84.2	66.4	106.9	87.0	90.7	107.1	101.6	75.4	93.2	78.6	89.4
Hamle	193.9	110.6	144.5	88.8	91.7	89.0	163.1	110.4	96.5	86.3	151.8	141.2	114.1
Nahase	105.4	49.0	122.7	30.7	28.4	62.9	68.7	41.5	82.3	50.4	35.6	54.7	56.4

N.B. Seasonality Index(S.I)=O/E x 100, Where E=m x n/360 (n=number of days in a month and m=number Of annual marriages)

E= expected number of marriages

O=observed (recorded) number of marriages

Note also that the month of Pagume and the N.S.cases are excluded.

Table 5.14 Percentage Distribution of Marriages By Religion and Month, 12 Regions, Rural Ethiopia, 1986/87

Month of Marriages	Religion		
	Christians	Muslims	Others
Meskerem	2.7	5.6	5.4
Tikimt	3.5	5.9	5.4
Hidar	5.3	8.6	9.2
Tahsas	4.6	7.5	5.3
Tir	9.9	10.1	9.6
Yekatit	19.0	13.0	9.9
Megabit	7.9	11.1	10.9
Miazia	15.0	9.8	7.3
Ginbot	11.7	5.2	10.9
Sene	7.1	7.8	8.5
Hamle	8.5	11.4	10.4
Nehase	4.8	4.0	7.2
Total	100	100	100

N.B. The Month of Pagume and the N.S. Cases are excluded.

j) Nuptiality Table

Nuptiality table is a model that shows the life time implication of the nuptiality rates that exist at the time of the study. These tables, are constructed using the age sex specific first marriage rates by single year age groups.

The nuptiality rates from which the nuptiality tables are constructed are given in Table 5.15. These rates are converted into the probability of marrying between age X and X+1 using formula $2M_x / 2+M_x$, where M_x is the nuptiality rate at age X [Kpedekpo et al.1982]. These probabilities are denoted by n_x in the Nuptiality Tables. Tables 5.16 and 5.17 present the nuptiality Table for females and males, respectively.

Table 5.15 Nuptiality Rates For Males And Females,12 Regions,Rural Ethiopia,1986/87

Age At Marriage	Male	Female
10	0.00105	0.00982
11	0.00018	0.00580
12	0.00335	0.03802
13	0.00089	0.01845
14	0.00280	0.04922
15	0.00135	0.01976
16	0.01112	0.13395
17	0.01963	0.16186
18	0.15054	0.67435
19	0.05373	0.15619
20	0.38480	0.88261
21	0.08191	0.11160
22	0.58281	0.48405
23	0.21863	0.20278
24	0.31127	0.32946
25	0.59421	0.60536
26	0.12522	0.11255
27	0.17251	0.15301
28	0.39555	0.26993
29	0.11746	0.06341
30	0.54396	0.34922
31	0.04339	0.01246
32	0.21139	0.08517
33	0.11049	0.01832
34	0.07726	0.08497
35	0.26033	0.05992
36	0.04607	0.00565
37	0.20092	0.00000
38	0.12599	0.11243
39	0.13490	0.06476
40	0.20220	0.08200
41	0.00632	0.00000
42	0.09179	0.01852
43	0.03053	0.00000
44	0.00501	0.00000
45	0.35889	0.00000
46	0.01144	0.01984
47	0.00000	0.00000
48	0.49206	0.09615
49	0.00000	0.00000
50	0.10496	0.00000

Table 5.16 Female Nuptiality Table, 12 Regions, Rural Ethiopia: 1986/87

Age	nx	Nx	Mx	MLx	EVMx	Sx	NEVx	PMx	ex
10	0.009774	100000	977	99639	977	99511	860966	99.63911	8.60996
11	0.005784	99023	573	98662	1550	98736	761665	99.63555	7.69183
12	0.037312	98450	3673	98089	5224	96613	662929	99.63343	6.73367
13	0.018284	94776	1733	94416	6956	93910	566316	99.61922	5.97528
14	0.048034	93044	4469	92683	11426	90809	472406	99.61213	5.07725
15	0.019568	88574	1733	88213	13159	87708	381597	99.59256	4.30821
16	0.125544	86841	10902	86480	24061	81390	293889	99.58443	3.38422
17	0.149745	75939	11371	75578	35433	70253	212499	99.52476	2.79830
18	0.504312	64567	32562	64206	67995	48286	142246	99.44107	2.20307
19	0.144878	32005	4637	31644	72632	29687	93960	98.87241	2.93577
20	0.612367	27368	16759	27007	89391	18989	64273	98.68137	2.34845
21	0.105705	10609	1121	10248	90513	10048	45285	96.59824	4.26856
22	0.389727	9487	3698	9127	94210	7639	35236	96.19616	3.71400
23	0.184115	5790	1066	5429	95276	5257	27598	93.76698	4.76649
24	0.282862	4724	1336	4363	96612	4056	22341	92.36042	4.72928
25	0.464706	3388	1574	3027	98187	2601	18285	89.34713	5.39744
26	0.106554	1813	193	1453	98380	1717	15684	80.09920	8.64908
27	0.142137	1620	230	1259	98610	1505	13968	77.72561	8.62095
28	0.237833	1390	331	1029	98941	1225	12463	74.03502	8.96649
29	0.061459	1059	65	698	99006	1027	11238	65.93270	10.60844
30	0.297307	994	296	633	99301	846	10211	63.70186	10.27037
31	0.012386	699	9	338	99310	694	9365	48.34426	13.40418
32	0.081690	690	56	329	99366	662	8670	47.69644	12.56601
33	0.018149	634	11	273	99378	628	8009	43.04367	12.63937
34	0.081505	622	51	261	99429	597	7381	41.99087	11.86375
35	0.058177	571	33	211	99462	555	6784	36.84330	11.87214
36	0.005639	538	3	177	99465	537	6229	32.94206	11.57461
37	0.000000	535	0	174	99465	535	5692	32.56180	10.63741
38	0.106443	535	57	174	99522	507	5157	32.56180	9.63741
39	0.062726	478	30	117	99552	463	4651	24.52841	9.72588
40	0.078775	448	35	87	99587	431	4188	19.47755	9.34331
41	0.000000	413	0	52	99587	413	3757	12.59210	9.09951
42	0.018349	413	8	52	99595	409	3344	12.59201	8.09951
43	0.000000	405	0	44	99595	405	2935	10.95822	7.24155
44	0.000000	405	0	44	99595	405	2530	10.95822	6.24155
45	0.000000	405	0	44	99595	405	2124	10.95822	5.24155
46	0.019641	405	8	44	99603	401	1719	10.95822	4.24155
47	0.000000	397	0	36	99603	397	1318	9.17431	2.31651
48	0.091743	397	36	36	99639	379	920	9.17431	2.31651
49	0.000000	361	0	0	99639	361	541	0.00000	1.50000
50	0.000000	361	0	0	99639	180	180	0.00000	0.50000

Table 5.17 Male Nuptiality Table, 12 Regions, Rural Ethiopia: 1986/87

Age	nx	Nx	Mx	MLx	EVMx	Sx	NEVx	PMx	ex
10	0.00105	100	105	99810	105	99948	1215419	99.80983	12.15419
11	0.00018	99895	18	99705	123	99886	1115472	99.80963	11.16640
12	0.00334	99877	334	99687	456	99710	1015585	99.80960	10.16833
13	0.00089	99544	88	99354	545	99500	915875	99.80896	9.20073
14	0.00280	99455	278	99265	823	99316	816375	99.80879	8.20847
15	0.00135	99177	134	98987	957	99110	717059	99.80825	7.23009
16	0.01106	99043	1095	98853	2052	98495	617949	99.80799	6.23920
17	0.01943	97948	1904	97758	3956	96996	519454	99.80585	5.30338
18	0.14000	96044	13447	95854	17402	89321	422458	99.80200	4.39858
19	0.05233	82598	4322	82407	21724	80437	333137	99.76976	4.03325
20	0.32271	78276	25260	78085	46985	65645	252700	99.75705	3.22834
21	0.07869	53015	4172	52825	51156	50929	187055	99.64129	3.52834
22	0.45130	48844	22043	48653	73200	37822	136126	99.61066	2.78698
23	0.19709	26800	5282	26610	78482	24159	98304	99.29042	3.66799
24	0.26935	21518	5796	21328	84278	18620	74144	99.11625	3.44563
25	0.45811	15722	7203	15532	91480	12121	55524	98.79045	3.53153
26	0.11784	8520	1004	8330	92484	8018	43403	97.76792	5.09434
27	0.15882	7516	1194	7326	93678	6919	35385	97.46974	4.70807
28	0.33024	6322	2088	6132	95766	5278	28466	96.99203	4.50256
29	0.11095	4234	470	4044	96235	3999	23188	95.50889	5.47610
30	0.42765	3765	1610	3574	97845	2960	19188	94.94844	5.09708
31	0.04246	2155	91	1964	97937	2109	16229	91.17396	7.53196
32	0.19118	2063	394	1873	98331	1866	14120	90.78254	6.84381
33	0.10470	1669	175	1479	98506	1581	12254	88.60376	7.34334
34	0.07439	1494	111	1304	98617	1438	10673	87.27101	7.14364
35	0.23035	1383	319	1193	98936	1383	9234	86.24802	6.67757
36	0.04503	1064	48	874	98984	1064	7851	82.13222	7.37680
37	0.18257	1016	186	826	99169	1016	6787	81.28966	6.67750
38	0.11853	831	98	641	99268	831	5771	77.11070	6.94557
39	0.12638	732	93	542	99360	732	4940	74.03291	6.74504
40	0.18364	640	117	450	99478	640	4207	70.27648	6.57612
41	0.00630	522	3	332	99481	522	3568	63.59030	6.83045
42	0.08776	519	46	329	99527	519	3045	63.35958	5.86739
43	0.03007	473	14	283	99541	473	2526	59.83446	5.33568
44	0.00500	459	2	269	99543	459	2053	58.58935	4.47008
45	0.30428	457	139	267	99682	457	1594	58.38143	3.48750
46	0.01138	318	4	128	99686	318	1137	40.17883	3.57545
47	0.00000	314	0	124	99686	314	819	39.49044	2.60509
48	0.39490	314	124	124	99810	314	504	39.49044	1.60509
49	0.00000	190	–	–	99810	190	190	0.00000	0.99999
50	0.09973	–	–	–	–	–	–	–	–

The values in nuptiality table are defined below

^{N}x = never married at age X. The number of the original cohort of 100,000 never married persons who survive the attrition of nuptiality and attain age X without marrying.

^{M}x = The number of the original cohort who marry between age X and X + 1

^{ML}x= the number of persons when attaining age X will marry during the next year or sometime in the future. It is obtained by cummulating ^{M}x from bottom up-ward.

^{EVM}x= The cummulative number of persons who had married in previous years. It is obtained by cummulating ^{M}X from top downward.

^{S}x = The number of person-years spent in single status. $^{S}x=1/2$ $(^{N}x + {}^{N}X + 1)$

^{NEV}X= The total number of person years that will be spent in the never married status by the cohort during the year of age X and all subsequent years. It is obtained by cummulating ^{S}x from bottom up-ward.

$^{P}M_{X}$ = The probability that a person who attains age X will marry sometime during his/her life time before age 50. $P^{M}X = {}^{ML}X/{}^{N}X$

$e^{n}x$ = The average number of years that a person will spend as a bachelor or spinister before first marriage. $e^{n}x = EV_{x}/{}^{N}x$

Tables 5.16 and 5.17 show that the number of years that a single man or woman aged 10 years and above would have to wait before being married was 12.2 years and 8.6 years, respectively. The Tables further indicates that of the total 100,000 cohorts of females only .36 percent remain single by the time they attain age 50 while non of the male cohorts of the 100,000 remain single at the same age. This reveals the prevalence of universal marriage and absence of celibacy, especialy among males, in the rural part of the country. It can further be inferred from the Tables that, the probability of a woman aged 10 years and above to be married before age 50 is 99.6 while this is 99.8 for a man of the same age. On the contrary, the chance of getting married for the male and the female at age 50 years and above is nil.

5.3 Divorce

a) Rate of Divorce

This section deals with the characteristics and pattern of divorce. Unlike mortality and fertility which affect the size of the population, divorce affects the marrital composition of the population . It also affects the fertility level of a given population ,particularly,a population where most of the reproduction takes place within wedlock. In the sample registration areas of the 12 regions in rural Ethiopia 70149 divorces were registered. Table 5.18 presents the distribution of the number of divorces, crude and general divorce rates by region.

The overall crude divorce rate was 2.29 per thousand population. The crude divorce rate of the regions range from 0.77 in Wellega to 5.71 in Gondar. The second and third highest crude divorce rates were 5.19 and 4.91 in Wollo and Gojjam, respectively.

According to general divorce rate, which is a refined summary measure, the overall general divorce rate was 6.12 per thousand married population. The regional rates vary from 14.17 in Gondar to 2.20 in Sidamo. The second and third highest general divorce rates were 12.78 and 11.94 in Wollo and Gojjam, respectively.

b) Age-Sex Specific Divorce Rate

Like marriage, divorce is also influenced by age and sex. In Table 5.19, age-sex-specific divorce rates by region are presented to examine at what age the maximum frequency of divorce takes place and the variation in age and sex composition.

Table 5.18 Number of Divorces, Crude and General Divorce Rates by Region, Rural Ethiopia, 1986/87

Region	Number of Divorce	Crude Divorce Rates (a)	General Divorce Rate (b)
Total	70,149	2.29	6.12
Arssi	1,800	0.99	2.76
Bale	1,011	1.48	4.20
Gamo Goffa	1,957	1.68	4.34
Gojjam	16,293	4.91	11.94
Gondar	10,956	5.71	14.17
Hararge	2,552	0.96	2.70
Illubabor	3,789	3.84	9.95
Keffa	4,144	2.09	5.46
Shewa	9,963	1.37	3.84
Sidamo	3,143	0.81	2.20
Wellega	1,973	0.77	2.20
Wollo	12,570	5.19	12.78

(a) Crude divorce rate refers to frequency of annual divorces per thousand population.

(b) General divorce rate refers to number of divorces per thousand married population aged 10 years and over.

The data in Table 5.19 indicate that the overall divorce rate for males reaches its highest in the age group 25-29 years with the rate of 16.06 per 1000 while for females it reaches its highest in the age group 20-24 years with the rate of 15.27 per 1000. Except for the fluctuations that are observed between age groups 40-54 (for females) and age groups 50-60 (for males), the rates rise from the age group 10-14 years to age group 25-29 years for males and 20-24 years for females, and thereafter decline with increasing age (see also Figure 5.9).

The age-sex specific divorce rates for the regions vary from region to region. However, Arssi, Bale, Gamo Goffa and Shewa have rates which have similar highest points with the national rates. Gojjam and Gondar showed an earlier peak in the rate of divorce i.e at age group 15-19 years for females and 20-

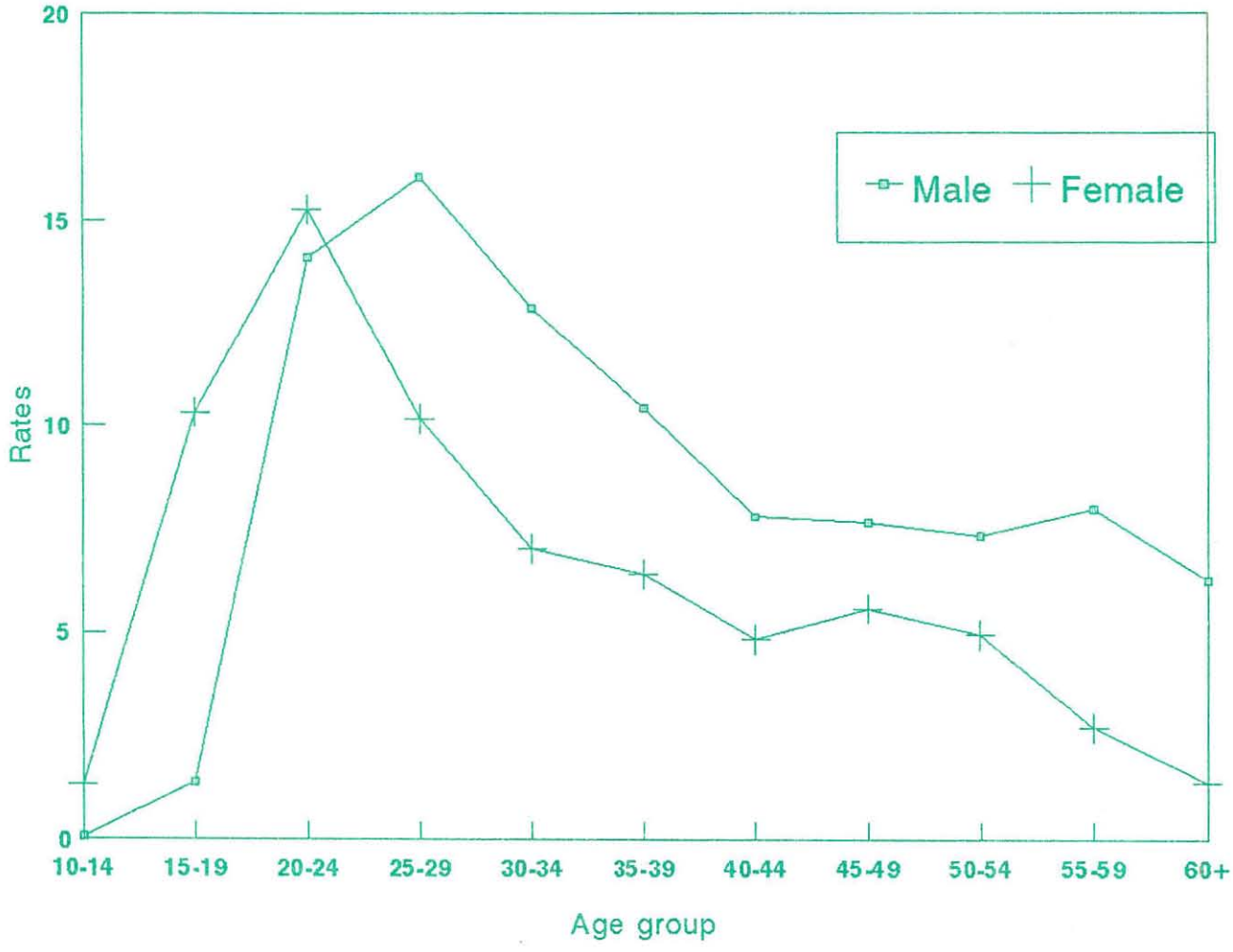
Table 5.19 Age-sex Specific Divorce Rate(per 1000) By Region,Rural Ethiopia,1986/87

Age Group At Divorce	Sex	Arssi	Bale	Gamo Goffa	Gojjam	Gondar	Hararge	Illu-babor	Keffa	Shewa	Sidamo	Wellega	Wollo	Total
10-14	M	-	-	-	0.05	0.42	-	-	-	-	-	0.13	0.28	0.06
	F	0.09	0.20	-	4.05	9.27	-	-	0.32	0.22	-	-	2.99	1.32
	T	0.04	0.09	-	1.89	4.67	-	-	0.15	0.10	-	0.07	1.59	0.66
15-19	M	0.57	0.62	0.83	7.80	4.99	0.25	-	0.65	0.41	0.10	0.15	0.45	1.38
	F	4.87	6.59	3.49	28.53	33.61	3.23	11.37	5.56	4.18	0.52	1.32	24.17	10.32
	T	2.00	3.51	2.08	18.91	19.77	1.61	5.15	2.91	2.24	0.29	0.76	11.54	5.60
20-24	M	4.87	8.55	9.40	37.12	45.86	7.41	14.68	6.25	6.61	1.47	2.15	24.26	14.09
	F	9.98	17.38	15.12	23.21	28.68	9.08	26.20	14.51	8.79	8.86	4.90	38.46	15.27
	T	7.20	13.55	12.66	29.46	37.08	8.33	20.61	10.88	7.76	5.60	3.58	31.58	14.72
25-29	M	6.41	16.10	14.80	24.67	46.19	7.23	22.97	14.15	9.73	5.27	6.63	32.91	16.06
	F	3.78	6.58	5.72	16.84	25.81	6.72	12.60	13.29	6.37	5.11	4.92	22.74	10.15
	T	4.91	10.08	9.55	20.63	35.64	6.93	17.03	13.63	7.76	5.18	5.64	27.36	12.69
30-34	M	5.85	10.19	7.01	23.58	24.29	4.37	15.96	18.53	7.10	9.41	3.48	34.78	12.87
	F	5.88	5.19	8.10	11.04	12.86	2.60	14.32	7.80	5.50	3.73	2.96	13.38	7.03
	T	5.87	7.13	7.63	16.92	18.08	3.42	15.01	12.15	6.17	6.07	3.18	21.89	9.54
35-39	M	5.15	9.43	8.00	17.23	19.08	6.41	29.00	9.32	7.27	3.88	1.65	28.35	10.43
	F	2.95	6.58	4.97	10.76	8.38	2.17	14.89	8.13	5.04	2.33	3.64	16.02	6.42
	T	3.98	7.77	6.42	14.07	13.94	4.43	21.45	8.66	6.08	3.03	2.68	21.60	8.33
40-44	M	6.77	9.16	3.66	13.93	12.42	1.08	22.78	10.00	3.90	6.05	2.38	18.55	7.81
	F	1.95	1.44	4.71	8.63	8.93	0.80	12.83	4.54	3.66	0.87	2.50	11.18	4.84
	T	4.27	4.64	4.19	11.17	10.63	0.95	17.52	7.07	3.78	3.19	2.45	14.25	6.24
45-49	M	2.33	5.34	7.80	9.08	14.95	3.53	9.20	11.20	5.86	4.14	3.00	17.42	7.67
	F	3.56	2.02	2.45	8.11	8.74	1.53	26.76	-	4.70	0.82	1.55	13.30	5.59
	T	2.91	3.67	5.35	8.62	12.36	2.63	17.85	6.02	5.31	2.51	2.31	15.32	6.68

Table 5.19 (cont.)

Age Group At Divorce	Sex	Arssi	Bale	Gamo Goffa	Gojjam	Gondar	Harerge	Illu-babor	Keffa	Shewa	Sidamo	Wellega	Wollo	Total
50–54	M	3.16	7.09	7.48	12.10	11.93	3.40	10.15	6.53	5.34	0.87	5.66	16.98	7.36
	F	3.92	2.24	0.68	9.58	10.10	1.18	7.94	4.38	4.68	0.93	4.39	6.13	4.97
	T	3.56	4.51	4.20	10.81	11.01	2.26	9.02	5.36	4.99	0.89	5.01	10.79	6.11
55–59	M	7.81	2.04	–	13.92	10.88	4.79	7.77	6.91	7.35	2.95	2.24	15.37	7.99
	F	2.33	2.45	2.07	11.66	3.64	–	–	–	0.31	–	1.20	7.49	2.72
	T	5.36	2.23	0.96	12.99	7.95	2.41	4.27	3.41	3.95	1.63	1.73	11.68	5.55
60+	M	3.62	3.75	2.44	13.22	10.16	0.77	12.97	3.59	4.90	2.10	4.40	12.67	6.29
	F	1.01	1.77	–	4.26	1.87	–	2.54	0.62	1.38	0.41	0.25	1.67	1.37
	T	2.52	2.85	1.37	9.14	6.65	0.41	7.91	2.21	3.26	1.47	2.41	7.32	4.05
Total	M	46.54	72.27	61.42	172.70	201.17	39.24	145.48	87.13	58.47	36.24	31.87	202.02	92.01
	F	40.32	52.44	47.31	136.67	151.89	27.31	129.45	59.15	44.83	23.58	27.63	157.53	70.00
	T	42.62	60.03	54.41	154.61	177.78	33.38	135.82	72.45	51.40	29.86	29.82	174.92	80.17
Median	M	35	35	29	28	27	32	38	33	36	33	40	35	32
	F	25	25	25	22	20	25	30	27	27	25	28	25	25
	T	31	30	28	25	25	27	35	30	31	30	31	30	28

Figure 5.9 Age-sex Specific Divorce Rates, 12 regions Rural Ethiopia,1986/87



24 years for males. For Hararge and Wellega, the peak lies at the same age group (at age group 20-24 years for Hararge and 25-29 years for Wellega), for both sexes. Kefa, Sidamo and Wollo have similar highest points (20-24 years for females and 25-29 years for males). The peak for Illubabor has shown a wider gap between the sexes; 20-24 for females and 35-39 for males. In general, the male and female rates range from 45.86 and 33.61 in Gondar to 6.63 and 4.92 in Wellega, respectively. The second position was occupied by Gojjam for both males and females.

At younger ages, divorce rates for females are higher than that of males while for older ages the reverse is true. The total divorce rate ranges from 177.9 in Gondar to 29.82 in Wellega. The second and third total divorce rates are 154.6 and 135.8 in Gojjam and Illubabor, respectively.

c) Median Age at Divorce

The median age at divorce by region and sex is presented at the bottom of Table 5.19 The table indicates that the median age at divorce was 32 for males and 25 for females, and 28 years for both sexes combined. Among the regions, Wellega was found to have the highest median age at divorce for males (40 years) and second highest for females (28 years), while Illubabor was found to have the second highest median age (38 years) for males and the highest median age (30 years) for females. Shewa region stood third in rank for both males and females with the median ages of 36 and 27 years, respectively. Hence it can be concluded that females' median age at divorce was lower than that of males'.

d) Divorce and Number of previous marriages

Number of previous marriages refer to the number of disrupted/brocken marriages excluding the current or the latest one. Accordingly, Table 5.20 displays the number of times that a person has been divorced before the current one. The table indicates that the majority of divorces occur to persons who have not been married before the marriage that is currently dissloved or those who were married only once before the marriage that is currently broken. One third (33.5) of all divorces have occurred to persons who were not married before the current one, while another one third (33) had occurred to those who were married only once before (see also Figure 5.10).

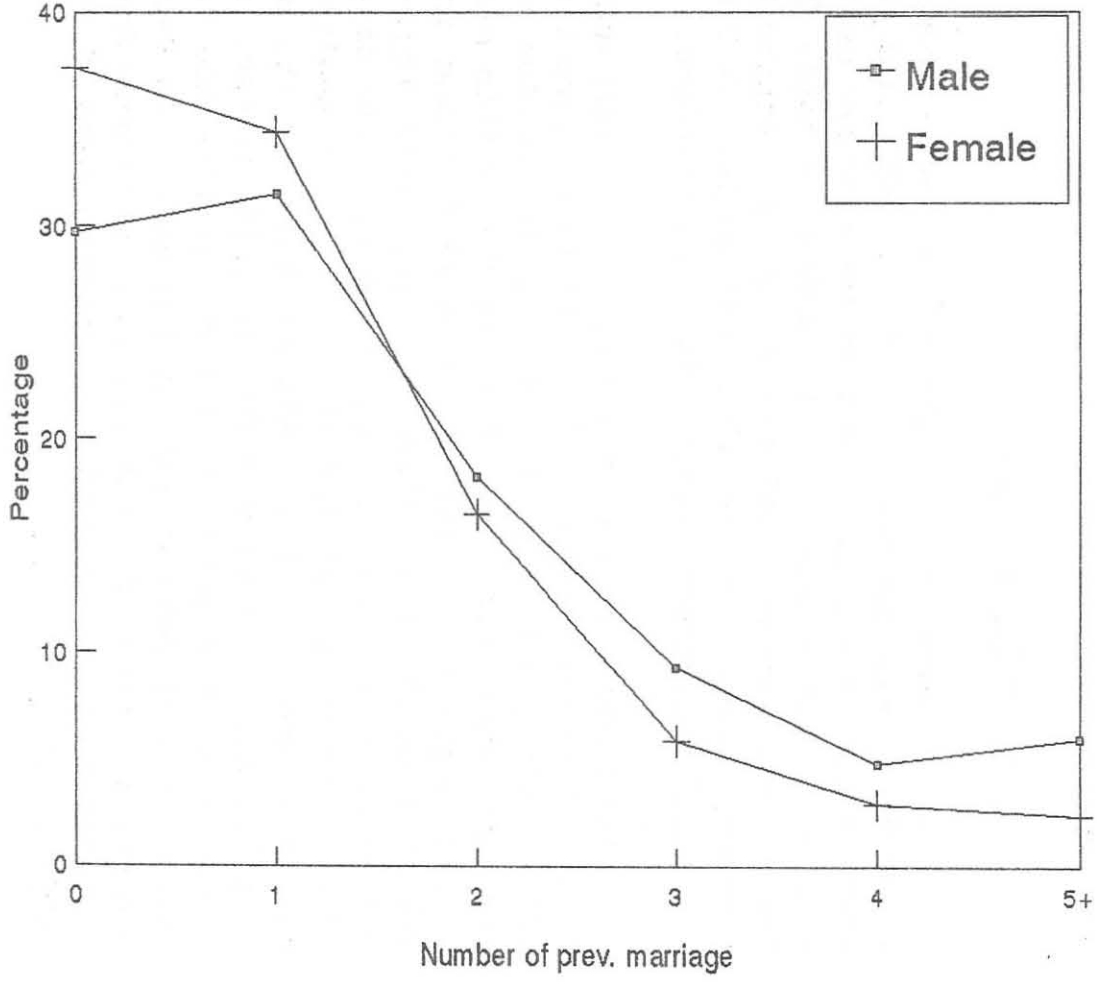
Table 5.20 Numerical and Percentage Distribution of Divorces by Number of Previous Marriages, Sex and Region, Rural Ethiopia, 1986/87

Region of Divorce	Sex	No & %	Number of Previous Marriage							
			0	1	2	3	4	5+	N/S	Total
Arssi	Male	No	636	687	249	112	-	116	-	1800
		%	35.3	38.1	13.8	6.2	-	6.5	-	100.0
	Female	No	996	568	157	25	26	28	-	1800
		%	55.3	31.6	8.7	1.4	1.4	1.6	-	100.0
	Total	No	1,632	1,255	406	136	26	145	-	3600
		%	45.3	34.9	11.3	3.8	.7	4.0	-	100.0
Bale	Male	No	386	316	166	83	51	10	-	1011
		%	38.2	31.2	16.4	8.2	5.0	1.0	-	100.0
	Female	No	498	338	93	58	10	14	-	1,011
		%	49.3	33.4	9.2	5.7	1.0	1.4	-	100.0
	Total	No	884	653	259	141	61	24	-	2023
		%	43.7	32.3	12.8	7.0	3.0	1.2	-	100.0
Gamo Goffa	Male	No	948	557	135	137	41	140	-	1957
		%	48.4	28.4	6.9	7.0	2.1	7.2	-	100.0
	Female	No	1,090	587	177	79	10	15	-	1957
		%	55.7	30.0	9.0	4.0	.5	.8	-	100.0
	Total	No	2,037	1,144	311	215	51	155	-	3914
		%	52.1	29.2	8.0	5.5	1.3	4.0	-	100.0
Gojjam	Male	No	2,806	4,902	3,983	2,307	952	1,249	94	16293
		%	17.2	30.1	24.4	14.2	5.8	7.7	.6	100.0
	Female	No	3,730	5,833	3,586	1,983	657	420	84	16293
		%	22.9	35.8	22.0	12.2	4.0	2.6	.5	100.0
	Total	No	6,536	10,734	7,569	4,291	1,609	1,669	177	32585
		%	20.1	32.9	23.2	13.2	4.9	5.1	.5	100.0
Gondar	Male	No	4,421	3,593	1,661	630	354	297	-	10956
		%	40.4	32.8	15.2	5.7	3.2	2.7	-	100.0
	Female	No	5,200	3,668	1,328	421	253	87	-	10956
		%	47.5	33.5	12.1	3.8	2.3	.8	-	100.0
	Total	No	9,622	7,261	2,988	1,051	606	384	-	21912
		%	43.9	33.1	13.6	4.8	2.8	1.8	-	100.0
Hararge	Male	No	1,487	805	131	18	18	92	-	2552
		%	58.3	31.6	5.2	.7	.7	3.6	-	100.0
	Female	No	1,715	643	194	-	-	-	-	2552
		%	67.2	25.2	7.6	-	-	-	-	100.0
	Total	No	3,202	1,448	326	18	18	92	-	5103
		%	62.7	28.4	6.4	.4	.4	1.8	-	100.0
Illubabor	Male	No	833	1,375	536	218	495	286	45	3789
		%	22.0	36.3	14.2	5.8	13.1	7.6	1.2	100.0
	Female	No	1,026	1,404	1,059	39	216	44	-	3789
		%	27.1	37.1	28.0	1.0	5.7	1.2	-	100.0
	Total	No	1,859	2,779	1,596	257	711	330	45	7578
		%	24.5	36.7	21.1	3.4	9.4	4.4	.6	100.0

Table 5.20 Contd.

Region of Divorce	Sex	No & %	Number of Previous Marriage							
			0	1	2	3	4	5+	N/S	Total
Keffa	Male	No	905	1,562	887	498	37	206	48	4,144
		%	21.8	37.7	21.4	12.0	.9	5.0	1.2	100.0
	Female	No	1,542	1,526	668	146	36	178	48	4,144
		%	37.2	36.8	16.1	3.5	.9	4.3	1.2	100.0
	Total	No	2,447	3,088	1,5561	644	73	384	96	8,287
		%	29.5	37.3	8.8	7.8	.9	4.6	1.2	100.0
Shewa	Male	No	3,660	3,209	1,194	951	364	503	82	9,963
		%	36.7	32.2	12.0	9.6	3.6	5.0	.8	100.0
	Female	No	4,687	3,070	1,219	474	223	207	82	9,963
		%	47.0	30.8	12.2	4.8	2.2	2.1	.8	100.0
	Total	No	8,347	6,279	2,413	1,426	586	710	165	19,926
		%	41.9	31.5	12.1	7.2	2.9	3.6	.8	100.0
Sidamo	Male	No	703	838	862	277	188	275	-	3,143
		%	22.4	26.7	27.4	8.8	6.0	8.7		100.0
	Female	No	1,175	1,281	645	-	42	-	-	3,143
		%	37.4	40.8	20.5	-	1.3	-		100.0
	Total	No	1,878	2,119	1,507	277	230	275	-	6,285
		%	29.9	33.7	24.0	4.4	3.7	4.4		100.0
Wellega	Male	No	463	773	277	324	76	61	-	1,973
		%	23.5	39.2	14.0	16.4	3.8	3.1		100.0
	Female	No	883	567	311	167	23	23	-	1,973
		%	44.7	28.7	15.7	8.5	1.2	1.2		100.0
	Total	No	1,346	1,339	588	492	98	84	-	3,946
		%	34.1	33.9	14.9	12.5	2.5	2.1		100.0
Wollo	Male	No	3,552	3,492	2,679	995 7.9	827	990	35	12,570
		%	28.3	27.8	21.3		6.6	7.9	.3	100.0
	Female	No	3,713	4,658	2,160	773	566	664	35	12,570
		%	29.5	37.1	17.2	6.2	4.5	5.3	.3	100.0
	Total	No	7,266	8,150	4,840	1,768	1,393	1,654	70	25,140
		%	28.9	32.4	9.3	7.0	5.5	6.6	.3	100.0
Total	Male	No	20,801	22,107	12,761	6,550	3,401	4,225	304	70,149
		%	29.7	31.5	18.2	9.3	4.8	6.0	.4	100.0
	Female	No	26,255	24,143	11,598	4,165	2,061	1,679	249	70,149
		%	37.4	34.4	16.5	5.9	2.9	2.4	.4	100.0
	Total	No	47,056	46,250	24,359	10,715	5,462	5,905	553	140,299
		%	33.5	33.0	17.4	7.6	3.9	4.2	.4	100.0

Figure 5.10 Proportion Of Divorces By Number of Previous Marriages And Sex, 12 Regions, Rural Ethiopia, 1986/87



With regard to the regions, Bale (43.7), Gamo Goffa(52.1), Gondar(43.9), Hararge (62.7) and Shewa (41.9) have the highest concentration of divorcees who have not married before the marriage that has recently brocken up. Gojjam (32.9), Sidamo (33.7) and Illubabor(36.7), on the other hand, have the highest proportion of divorcees who have married once before the marriage that has brocken up recently. In general, most divorces are concentrated on the first and second order marriages. In Gojjam and Illubabor and to some extent in Sidamo and Keffa a good concentration of divorces are observed in the third order marriages.

e) Reasons for Divorce

The reasons for divorces that were reported by the respondents and the magnitude of the proportion with regard to each type of reason that has been observed are explained in this section. The reasons are presented in Table 5.21 in eight categories, namely: differences in age, ethnicity, religion, poverty, inability to get along with spouse, childlessness, poor household management, health and other problems.

The highest number of divorces (60%) were due to inability to get along with spouse. This finding was also observed in the 1982/83 vital registration. This reason was also highest in each region of rural Ethiopia. Divorces due to this reason accounted from 80.9 percent in Gamo Goffa to 49.7 percent in Gondar. The lowest proportion of divorces (0.7%) were registered due to differences in ethnicity and religion. The second and third highest percentage of divorces were due to health problem. On the other hand, in Gamo Goffa and Hararge, the second highest proportion of divorces were due to childlessness. In Sidamo, the second highest proportion of divorces were due to 'ethnic and religious differences' and childlessness. In Keffa the second and third highest concentration of divorce were due to household mismanagement (9.8 percent) and childlessness (6.9 percent) (see Table 5.21).

Table 5.21 Numerical And Percentage Distribution Of Divorces By Cause Of Divorce And Region, Rural Ethioppia, 1986/87(Male)

Region	No & %	Spousal Age Differnce	Ethnic Religious Differnce	Poverty	Unable To Get Along	Child lessness	Houshold mis-management	Health	Others	Total
Arsi	No	–	–	69	1243	–	197	100	191	1800
	%	–	–	3.8	69.1	–	11.0	5.5	10.6	100.0
Bale	No	10	9	69	637	–	71	58	157	1011
	%	1.0	0.9	6.9	63.0	–	7.0	5.8	15.6	100.0
GAMO	No	–	38	24	1583	96	46	55	114	1957
Goffa	%	–	2.0	1.2	80.9	4.9	2.3	2.8	5.8	100.0
Gojjam	No	397	–	1449	8525	363	709	2189	2659	16293
	%	2.4	–	8.9	5.3	2.2	4.4	13.4	16.3	100.0
Gondar	No	532	–	1554	5450	229	277	1173	1739	10956
	%	4.9	–	14.2	49.7	2.1	2.5	10.7	15.9	100.0
Hararge	No	36	–	103	1899	154	73	81	206	2552
	%	1.4	–	4.0	74.4	6.0	2.9	3.2	8.1	100.0
Illubabor	No	–	110	267	2628	6	58	96	624	3789
	%	–	2.9	7.0	69.4	0.2	1.5	2.5	16.5	100.0
Keffa	No	–	–	74	2930	287	405	281	166	4144
	%	–	–	1.8	70.7	6.9	9.8	6.8	4.0	100.0
Shewa	No	223	215	590	6575	344	487	426	1103	9963
	%	2.2	2.2	5.9	66.0	3.5	4.9	4.3	11.1	100.0
Sidamo	No	–	133	17	1573	133	52	18	1217	3134
	%	–	4.2	0.5	50.1	4.2	1.7	0.6	38.7	100.0
Wellega	No	70	–	122	1277	26	39	79	360	1973
	%	3.6	–	6.2	64.7	1.3	2.0	4.0	18.3	100.0
Wollo	No	160	19	1239	7994	586	297	1122	1153	2570
	%	1.3	0.2	9.9	63.6	4.7	2.4	8.9	9.2	100.0
Total	No	1430	525	5577	42314	2225	2712	5676	9691	70149
	%	2.0	0.7	8.0	60.3	3.2	3.9	8.1	13.8	100.0

f) Divorce and Number of Dependent Children

The frequency of divorce in the married population is also influenced by the number of dependent children under age 18 years. The number of "dependent children" refers to the number of children under age 18 who belong to both divorcing couples. It is observed that the more children they have, the less was the chance for divorce to occur.

Table 5.22 presents the frequency and proportion of divorces, cross classified with the number of dependent children in each region. The overall incidence of divorces indicate that the number of divorces were highest for those couples who have less number of dependent children (see Figure 5.11). This is also true in all regions. This shows that the number of children that the couples have has a negative impact on the frequency of the occurrence of divorce.

g) Seasonality of Divorce

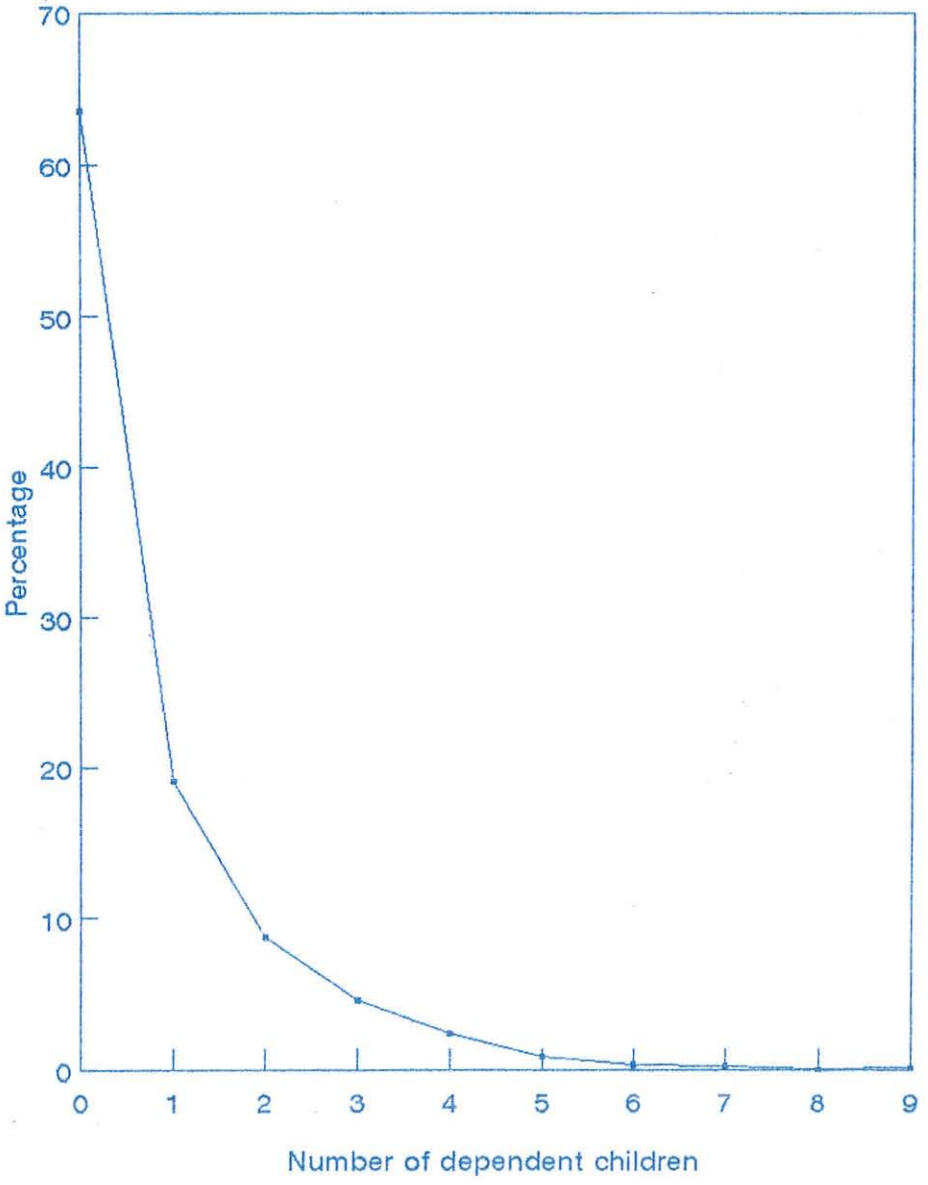
Seasons are other factors that influence the incidence of divorce. Table 5.23 exhibits the seasonal variation of divorce. Table 1.2 of Chapter I gives the Ethiopian and the corresponding Gregorian months in a year. The highest concentration of divorces for all regions occurred in the month of Hamle (15.6 percent) and the lowest concentration occurred in Meskerem (3.1 percent) (see Figure 5.12). The second highest month of divorce was Ginbot with 13.1 percent and the third one was Megabit with 10.6 percent. This shows that there is seasonality of divorce, the cause of which needs further investigation.

The pattern of the seasonality of divorce was further presented using a seasonality index. In the computation of the seasonality index, it is assumed that the chance of divorce in any one month of the year is equal. This assumption implies that if there is no seasonality variation, the index is expected to be 1 (or 100 if multiplied by 100). The resulting seasonality indices reveal similar patterns indicated by the percentage of divorces in each month. The months of Hamle followed by Sene and Nehase are the months in which the highest number of divorces, occurred. Thus indicating the existence of seasonality variation in divorces. (see Table 5.23(a)).

Table 5.22 Numerical and Percentage Distribution of Divorces by Number of Dependent Children Under Age 18 and Region, Rural Ethiopia, 1986/87

Region	No & %	Number of Dependent Children					
		0	1–3	4–6	7–9	N/S	Total
Arssi	No	938	708	142	–	12	1800
	%	52.1	39.3	7.9	–	0.7	100.0
Bale	No	644	308	27	–	32	1011
	%	63.7	30.5	2.7	–	3.2	100.0
Gamo Goffa	No	995	710	114	–	139	1957
	%	50.8	36.3	5.8	–	7.1	100.0
Gojjam	No	9759	5504	598	123	308	16293
	%	59.9	33.8	3.7	0.8	1.9	100.0
Gonder	No	6558	3884	484	30	–	10956
	%	59.9	35.5	4.4	0.3	–	100.0
Hararge	No	1389	1001	41	55	66	2552
	%	54.4	39.2	1.6	2.1	2.6	100.0
Illubabor	No	2279	1295	214	–	–	3789
	%	60.2	34.2	5.7	–	–	100.0
Keffa	No	2690	1369	37	–	48	4144
	%	64.9	33.0	0.9	–	1.2	100.0
Shewa	No	5093	3409	628	91	741	9963
	%	51.1	34.2	6.3	0.9	7.4	100.0
Sidamo	No	1485	1550	79	–	30	3143
	%	47.2	49.3	2.5	–	0.9	100.0
Wellega	No	1106	788	48	–	31	1973
	%	56.0	40.0	2.4	–	1.6	100.0
Wello	No	10695	1777	10	–	88	12570
	%	85.1	14.1	0.1	–	0.7	100.0
Total	No	43630	22304	2423	298	1494	70149
	%	62.2	31.8	3.5	0.4	2.1	100.0

Figure 5.11 Proportion Of Divorces By Number Of Dependent Children Under 18 Years Of Age,12 Regions,Rural Ethiopia,1986/87



Seasonality variation was also seen when divorce was controlled by regions. The incidence of divorce was highest during the month of Hamle in Arssi, Illubabor, Keffa, Shewa, Wellega and Wollo; during the month of Ginbot in Gamo Goffa, Gojjam and Gondar and during the months of Megabit, Tir and Sene, in Bale, Hararge and Sidamo, respectively (see Table 5.23).

Table 5.23 Numerical and Percentage Distribution of Divorces by Month of Divorce and Region

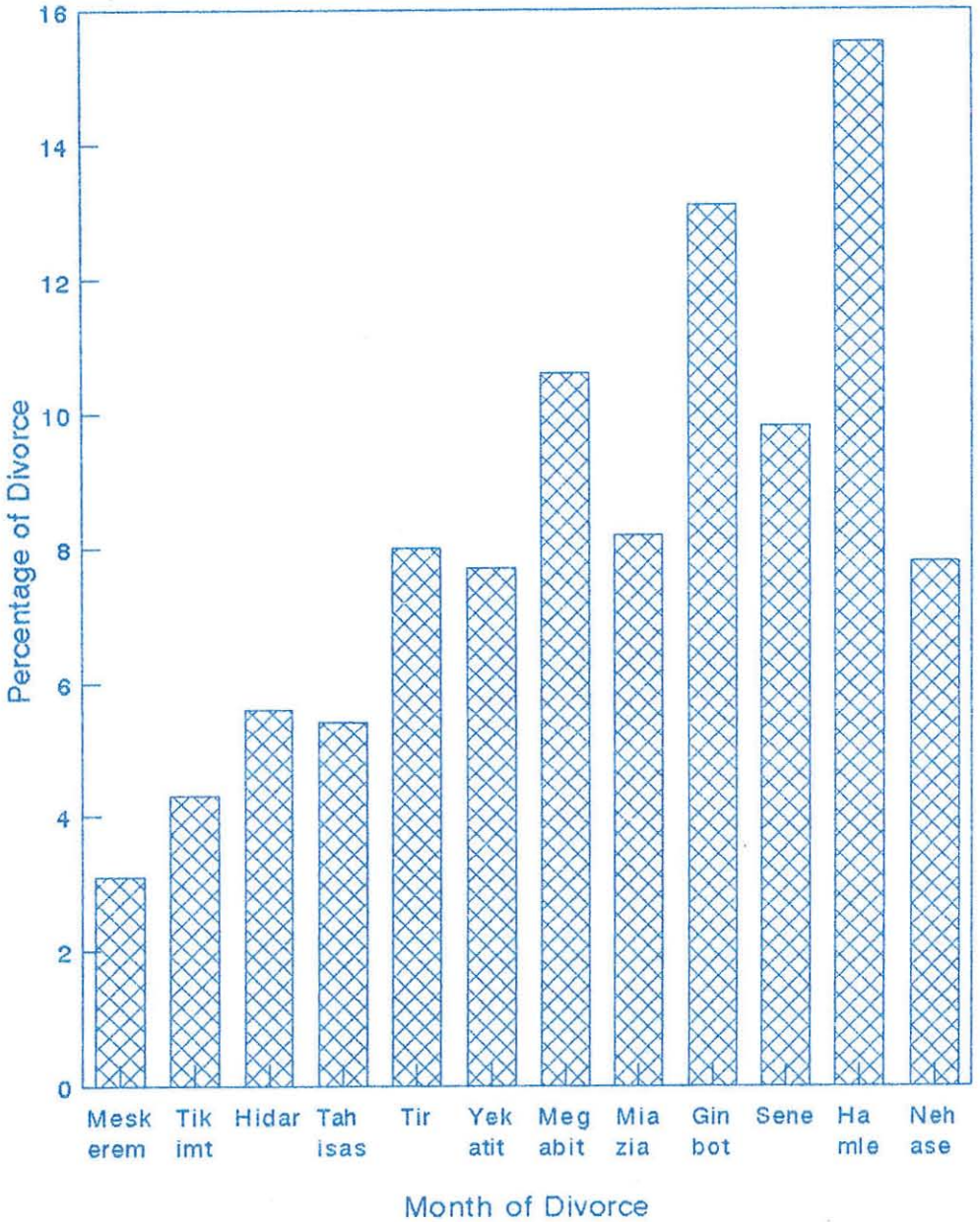
Rural Ethiopia, 1986/87

Month	No & %	Region												
		Arssi	Bale	Gamo Gofa	Gojjam	Gondar	Hararge	Illubabor	Keffa	Shewa	Sidamo	Wellega	Wollo	Total
Meskerem	No	117	62	10	566	292	47	85	306	127	155	125	291	2,184
	%	6.7	6.1	.5	3.5	2.7	1.9	2.2	7.5	1.3	4.9	6.4	2.3	3.1
Tikimit	No	18	113	156	494	287	299	166	63	673	137	123	484	3,013
	%	1.0	11.2	8.1	3.0	2.6	11.8	4.4	1.5	6.9	4.3	6.3	3.9	4.3
Hidar	No	84	80	88	812	496	185	181	353	436	184	71	934	3,903
	%	4.8	7.9	4.6	5.0	4.6	7.3	4.8	8.6	4.4	5.9	3.6	7.5	5.6
Tahsas	No	83	100	102	526	729	194	315	320	346	153	211	702	3,782
	%	4.7	9.9	5.3	3.2	6.7	7.7	8.3	7.8	3.5	4.9	10.9	5.6	5.4
Tir	No	151	66	93	1,601	851	364	173	378	365	477	24	1,071	5,616
	%	8.6	6.5	4.8	9.9	7.8	14.1	4.6	9.2	3.7	15.2	1.2	8.6	8.1
Yekatit	No	118	44	185	857	1,206	222	467	142	740	418	168	833	5,399
	%	6.7	4.4	9.6	5.3	11.1	8.8	12.3	3.5	7.5	13.3	8.7	6.7	7.8
Megabit	No	169	158	196	2,476	1,381	191	79	349	810	242	196	1,187	7,432
	%	9.6	15.6	10.2	15.2	12.7	7.6	2.1	8.5	8.2	7.7	10.1	9.6	10.7
Miazia	No	75	110	148	1,783	1,061	146	201	265	930	171	90	783	5,762
	%	4.3	10.9	7.7	11.0	9.7	5.8	5.3	6.5	9.5	5.4	4.6	6.3	8.3
Ginbot	No	147	92	333	2,620	1,922	211	580	566	1,397	235	149	943	9,196
	%	8.4	9.1	17.3	16.1	17.7	8.4	15.3	13.8	14.2	7.5	7.7	7.6	13.2
Sene	No	91	55	167	1,286	931	210	244	433	1,124	658	187	1,512	6,897
	%	5.2	5.4	8.7	7.9	8.5	8.3	6.4	10.6	11.4	20.9	9.6	12.2	9.9

Table 5.23 Cont'd.

Month	No & %	Region												
		Arssi	Bale	Gamo Gofa	Gojjam	Gondar	Hararge	Illubabor	Keffa	Shewa	Sidamo	Wellega	Wollo	Total
Hamle	No	419	71	159	2,249	1,066	296	800	710	2,007	215	429	2,433	10,856
	%	23.8	7.0	8.3	13.9	9.8	11.7	21.1	17.4	20.5	6.8	22.1	19.6	15.6
Nehase	No	285	60	288	954	661	158	498	205	871	98	169	1,253	5,502
	%	16.2	6.0	14.9	5.9	6.1	6.3	13.2	5.1	8.9	3.2	8.8	10.1	8.0
Total	No	1,757	1,011	1,925	16,226	10,883	2,525	3,789	4,090	9,826	3,143	1,942	12,425	69,542
	%	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Figure 5.12 Percentage Distribution Of Divorce By Month
12 Regions, Rural Ethiopia, 1986/87



'Table 5.23(a) Seasonality Index Of Divorce By Months And Region,Rural Ethiopia,1986/87

Month Of Divorce	Arssi	Bale	Gamo Goffa	Goj jam	Gon dar	Hara rge	Illu-babor	Keffa	Shewa	Sidamo	Wel lega	Wollo	Total
Meskerem	79.9	73.5	6.2	41.9	32.2	22.3	26.9	89.8	15.5	59.2	77.2	28.1	37.4
Tikimt	12.3	134.1	97.2	36.5	31.6	142.1	52.6	18.5	82.2	52.3	76.0	46.7	51.5
Hidar	57.4	95.0	54.9	60.1	54.7	87.9	57.3	103.6	53.2	70.3	43.9	90.2	66.8
Tahsas	56.7	118.7	63.6	38.9	80.4	92.2	99.8	93.9	42.3	58.4	130.4	67.8	64.7
Tir	103.1	78.3	58.0	118.4	93.8	173.0	54.8	110.9	44.6	182.1	14.8	103.4	96.1
Yekatit	80.6	52.2	115.3	63.4	133.0	105.5	147.9	41.7	90.4	159.6	103.8	80.5	92.4
Megabit	115.4	187.5	122.2	183.1	152.3	90.8	25.0	102.4	98.9	92.4	121.1	114.6	127.1
Miazia	51.2	130.6	92.3	131.9	167.0	60.4	63.7	77.8	113.6	65.3	55.6	75.6	98.6
Ginbot	100.4	109.2	207.6	193.8	211.9	100.3	183.7	166.1	170.6	89.0	92.1	91.1	157.3
Sene	62.2	65.3	104.1	95.1	102.7	99.8	77.3	127.0	137.3	251.2	115.6	146.0	118.0
Hamle	286.2	84.3	99.1	166.3	117.5	140.7	253.4	208.3	245.1	82.1	265.1	235.0	185.7
Nahase	194.6	72.4	179.5	70.6	72.9	75.1	157.7	60.1	106.4	37.4	104.4	121.0	94.1

N.B. Seasonality Index(S.I)=O/E x 100, Where E=m x n/360 (n=number of days in a month and m=number of annual divorces)

E= expected number of divorces

O=observed (recorded) number of divorces

Note also that the month of Pagume and the N.S.cases are excluded.

CHAPTER VI

INTERNAL MIGRATION

In this chapter of the report an attempt is made to present the main findings concerning internal migration observed during the 1986-87 Sample Vital Registration System in the rural areas of all regions except Tigray and the nomadic areas of the country. The main focus of the report is on the volume, the rate, the age-sex pattern, reasons, seasonality and streams of internal migration. As, it is mentioned in the earlier chapters, a base line survey was conducted in September 1986 in which all households in the sampled Farmers Association (FA) were covered in order to obtain the complete list of usual residents of each household. In September 1987, which is after twelve months of the base line survey, a retrospective survey was carried out which covered the same households and newly formed ones. The aim of this retrospective survey was to obtain information on the changes in the composition of the original households.

It was during this survey that information on internal migration was collected. The questionnaire employed at the survey included questions with regard to migration where: name, sex, age, place of origin and destination, reason, time ...etc. were asked (see Appendix A). This report is concerned with migrants rather than migration i.e. on persons who have made movements, at least once, across regional or sub-regional boundaries in the 12 months prior to the retrospective survey. A migrant is defined as a person who changed his/her usual residence to another FA or urban area. Moreover, to be considered as a migrant an individual must be absent from his/her usual place of residence for at least six months or not expected to return.

The types of migratory movements included inter-regional and intra-regional migrations. The inter-regional migrations are movements of persons between and among the regions, while intra-regional migration involves migratory movements within the same region. Each type of migration is formed by rural to rural, rural to urban or urban to rural movements. As the survey is conducted in the rural areas of the country it was not possible to catch the urban to urban migrants.

6.1 Volume of Migrants

In the year 1986-87 the total number of internal migrants or the turnover was 1,072,663 (in migrants plus out migrants). This total included all intra and inter-regional migrants and it should be noted that a person could be counted twice. It is believed that the majority of inter-regional migrants cover more distance than their intra-regional counterparts. One of the broadly established migration laws states that the volume of migrants is inversely related to the distance covered. This is borne out by the analysis of the data in Tables 6.1 and 6.2. Out of the total turnover the overwhelming majority (87.7 percent) were intra-regional migrants. This is about seven times the inter-regional migrants who constituted 12.3 percent (132,268 persons) (see Table 6.1).

The analysis of the data in Table 6.2 indicates that internal migration in the country was predominantly rural-rural. Out of the total migrants, the majority (80.9 percent) were rural-rural migrants. The second important form of migration was rural-urban migration constituting nearly 13 percent (136,895 migrants) and the third one which accounted for only 6.4 percent (68,291 migrants) was the urban-rural form of migration.

Of the total migrants, 479,460 (44.7 percent) were males and 593,203 (55.3 percent) were females implying a sex ratio of 80.8, i.e for every hundred females there were eighty one male counter parts. The overall internal migration was female dominated for the rural-rural and urban-rural migration with a sex ratio, 75.7 and 96.2, respectively, while it was reversed for the rural-urban movement with an excess of nearly twelve males per hundred females, sex ratio being 111.8. However, the 1981 demographic survey and the 1984 National Population and Housing Census, revealed that, urban areas have female dominated population.

a) Volume of Inter-regional Migrants

As mentioned earlier, inter-regional migrants are persons who crossed, at least once, the regional boundaries of their usual place of residence and settled in another region. Of the total 132,268 inter-regional migrants, 88,258 (66.7 percent) 28,372 (21.5 percent) and the minority 15,638 (11.8 percent) were rural-rural, rural-urban and urban-rural migrants, respectively. 75,917 (57.4 percent) were males, while 56,351 (42.6 percent) were females (See Table 6.2). The majority 85,444 or (64.6

Table 6.1 Numerical And Percentage Distribution Of Internal Migrants By Type, Form And Sex,12 Regions: Rural Ethiopia ,1986/87

Type of Migration		Rural to Rural			Rural to Urban			Urban to Rural			All Forms		
		Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
Inter-regional	No.	49386	38872	88258	17378	10994	28372	9153	6485	15638	75917	56351	132268
	%	13.2	7.9	10.2	24.0	17.0	20.7	27.3	18.6	22.9	15.8	9.5	12.3
Out-migrants	No.	31894	25178	57072	17378	10994	28372	-	-	-	49272	36172	85444
	%	8.5	5.1	6.6	24.0	17.0	20.7	-	-	-	10.3	6.1	8.0
In-migrants	No.	17492	13694	31186	-	-	-	9153	6485	15638	26645	20179	46824
	%	4.7	2.8	3.6	-	-	-	27.3	18.6	22.9	5.6	3.4	4.4
Intra-Regional	No.	324296	454923	779219	54912	53611	108523	24335	28318	52653	403543	536852	940395
	%	86.8	92.1	89.8	76.0	83.0	79.3	72.7	81.4	77.1	84.2	90.5	87.7
Total*	No.	373682	493795	867477	72290	64605	136895	33488	34803	68291	479460	593203	1072663
	%	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Total = Inter-regional + Intra-regional migrants

Table 6.2 Numerical And Percentage Distrubtion Of Internal Migrants By Type , Form And Sex, 12 Regions; Rural Ethiopia, 1986/87

Type of Migration		Rural to Rural			Rural to Urban			Urban to Rural			All Forms		
		Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
Inter-regional	No.	49386	38872	88258	17378	10994	28372	9153	6485	15638	75917	56351	132268
	%	65.1	69.0	66.7	22.9	19.5	21.5	12.1	11.5	11.8	100.0	100.0	100.0
Out-migrants	No.	31894	25178	57072	17378	10994	28372	-	-	-	49272	36172	85444
	%	64.7	69.6	66.8	35.3	30.4	33.2	-	-	-	100.0	100.0	100.0
In-migrants	No.	17492	13694	31186	-	-	-	9153	6485	15638	26645	20179	46824
	%	65.6	67.9	66.6	-	-	-	34.4	32.1	33.4	100.0	100.0	100.0
Intra-Regional	No.	324296	454923	779219	54912	53611	108523	24335	28318	52653	403543	536852	940395
	%	80.4	84.7	82.9	13.6	10.0	11.5	6.0	5.3	5.6	100.0	100.0	100.0
Total*	No.	373682	493795	867477	72290	64605	136895	33488	34803	68291	479460	593203	1072663
	%	77.9	83.2	80.9	15.1	10.9	12.8	7.0	5.9	6.4	100.0	100.0	100.0

Total = Inter-regional + Intra-regional migrants

percent) of the inter-regional migrants were those who left a given region while 46,824 (35.4 percent) were those who came into a given region. In the former case, 49,272 (57.7 percent) were males and 36,172 (42.3 percent) were females while in the latter, 26,645 (56.9 percent) and 20,179 (43.1 percent) were males and females, respectively.

From Table 6.3 it can be observed that out of the total 46,824 in-migrants the rural-rural migrants made 66.6 percent while the urban-rural constituted a third of the in-migrants. The rural-rural migration predominates in all the regions except in Gamo Goffa, Hararge, Keffa and Gondar. The highest proportion of in-migrants were observed in Wollo (22.3 percent) followed by Shewa (17.7 percent), Gojjam (11.2 percent) and Arssi (10.3 percent). While Hararge (2.6 percent), Keffa (3.3 percent) and Gamo Goffa (3.4 percent) had the lower proportions.

The same table presents the distribution of out-migrants where the number of the rural-rural out-migrants is a little more than twice (66.8 and 33.2) of the rural-urban out-migrants. The predominance of the rural-rural migration holds true for all regions except for Gamo Goffa, Wollo and Keffa where the rural-urban migration predominates. The contribution of each region to the total out-migrants of the country varied from 17.0 percent for Wellega and 15.6 percent for Shewa to 1.9 and 2.8 for Hararge and Keffa regions, respectively.

b) Volume of intra-regional Migrants

The distribution of intra-regional migrants by form of migration is presented in Table 6.4. These migrants are persons who changed their place of residence within a given region but by crossing a sub-region. Out of the total 940,395 intra-regional migrants 779,219 (82.9 percent), 108,523 (11.5 percent) and 52,653 (5.6 percent) made rural-rural, rural-urban and urban-rural movements, respectively. The intra-regional movements were female dominated since 57.1 percent were females and 42.9 percent were males (see Table 6.2).

The predominance of female migrants in the total intra-regional migrants holds true for the rural-rural and urban-rural migration, as these can be readily computed as 41.6 percent males, 52.3 percent females and 46.2 percent males and 53.8 percent females, respectively from Table 6.1 or Table 6.2. In the case of the rural-urban movements, the number of males is

Table 6.3 Numerical And Percentage Distrubition Of Inter-regional Migrants By Type, Form And Region; Rural Ethiopia, 1986/87

Region		In-migrants				Out-migrants			
		R-R	U-R	All	%	R-R	R-U	All	%
Arssi	No.	3479	1366	4845	10.3	8316	2816	11132	13.0
	%	71.8	28.2	100		74.7	25.3	100	
Bale	No.	1265	452	1717	3.7	2380	765	3145	3.7
	%	73.7	26.3	100		75.7	24.3	100	
Gamo Gofa	No.	556	1049	1605	3.4	771	2022	2793	3.3
	%	34.6	65.4	100		27.6	72.4	100	
Gojjam	No.	3659	1606	5265	11.2	4558	2667	7225	8.5
	%	69.5	30.5	100		63.1	36.9	100	
Gondar	No.	935	1098	2033	4.3	4266	3212	7478	8.8
	%	46.0	54.0	100		57.0	43.0	100	
Hararge	No.	472	750	1222	2.6	1036	585	1621	1.9
	%	38.6	61.4	100		63.9	36.1	100	
Illubabor	No.	2830	373	3203	6.8	7117	555	7672	9.0
	%	88.4	11.6	100		92.8	7.2	100	
Keffa	No.	621	909	1530	3.3	1072	1353	2425	2.8
	%	40.6	59.4	100		44.2	55.8	100	
Shewa	No.	6228	2046	8274	17.7	8667	4674	13341	15.6
	%	75.3	24.7	100		65.0	35.0	100	
Sidamo	No.	1845	815	2660	5.7	2797	2361	5158	6.0
	%	69.4	30.6	100		54.2	45.8	100	
Wellega	No.	3114	901	4015	8.6	13377	1148	14525	17.0
	%	77.6	22.4	100		92.1	7.9	100	
Wollo	No.	6182	4273	10455	22.3	2715	6214	8929	10.5
	%	59.1	40.9	100		30.4	69.6	100	
Total	No.	31186	15638	46824	100	57072	28372	85444	100
	%	66.6	33.4	100		66.8	33.2	100	

R-R= Rural to Rural U-R= Urban to Rural R-U= Rural to Urban

Table 6.4 Numerical And Percentage Distribution Of Intra-regional Migrants By Form And Region; Rural Ethiopia, 1986/87

Region		Rural-Rural		Urban-Rural		Rural-Urban		All	
		No.	No.	No.	No.	No.	%	No.	%
Arssi	No.	65224	8.4	2877	5.5	9207	8.5	77308	8.2
	%	84.4		3.7		11.9		100.0	
Bale	No.	7672	1.0	1010	1.9	1629	1.5	10311	1.1
	%	74.4		9.8		15.8		100.0	
Gamo Gofa	No.	37846	4.9	1081	2.1	1903	1.8	40830	4.3
	%	92.7		2.6		4.7		100.0	
Gojjam	No.	156804	20.1	6206	11.8	12512	11.5	175522	18.7
	%	89.3		3.5		7.1		100.0	
Gondar	No.	57669	7.4	6032	11.5	11026	10.2	74727	7.9
	%	77.2		8.1		14.8		100.0	
Hararge	No.	52384	6.7	3265	6.2	5109	4.7	60758	6.5
	%	86.2		5.4		8.4		100.0	
Illubabor	No.	19093	2.5	779	1.5	2804	2.6	22676	2.4
	%	84.2		3.4		12.4		100.0	
Keffa	No.	17743	2.3	410	0.8	2136	2.0	20289	2.2
	%	87.5		2.0		10.5		100.0	
Shewa	No.	138871	17.8	23544	44.7	43376	40.0	205791	21.9
	%	67.5		11.4		21.1		100.0	
Sidamo	No.	110981	14.2	3195	6.1	7341	6.8	121517	12.9
	%	91.3		2.6		6.0		100.0	
Wellega	No.	63054	8.1	1391	2.6	5954	5.5	70399	7.5
	%	89.6		2.0		8.5		100.0	
Wollo	No.	51878	6.7	2863	5.4	5526	5.1	60267	6.4
	%	86.1		4.8		9.2		100.0	
Total	No.	779219	100.0	52653	100.0	108523	100.0	940395	100.0
	%	82.9		5.6		11.5		100.0	

slightly greater than females, 50.6 and 49.3 percent, respectively. This finding of higher mobility of females within a region than across a region may be attributed, among other things, to the fact that female migration occur mostly due to marriage and this usually takes place within a region.

The analysis of the data in Table 6.4 indicates that Shewa (21.9 percent), Gojjam (18.7 percent) and Sidamo (12.9 percent) had the highest contribution to the total intra-regional migrants of the country while regions like Bale (1.1 percent), Keffa (2.2 percent) and Illubabor (2.4 percent) had a relatively lower contributions.

In all the regions, the volume of rural-rural intra-regional migrants is higher (82.4 percent) followed by rural-urban migrants (11.5 percent); while the urban-rural migrants constituted a relatively small proportion (5.6 percent).

6.2 Rates of Internal Migration

The volume of migrants is in part a function of the population size at the source facilitated by improvements in transport, communication and other infrastructural factors. Assuming that the level of development is similar in all the regions, an attempt is made to assess the extent or intensity of migration from a region by relating the volume of migrants to its base population. However, in the computation of a rate, the out migration rate uses as a base the population at the origin while the in-migration rates are based on the population of the area of destination.

The migration rates of the inter and intra-regional migrants are presented in Tables 6.5 and 6.6, respectively. These rates are the number of migrants divided by the population of the respective region per thousand. Using the total figures in Table 6.1 or 6.2, and relating them to the overall total of the rural population, apart from region Tigray and the nomadic areas and urban centers, the survey crudely showed 35 persons per thousand of the country's rural population moved in the year 1986-87. Of these nearly 31 per-thousand moved within the regions while 4 per thousand moved across the regions.

a) Rates of Inter-regional Migration

The inter-regional migration rates shown in Table 6.5 reveal that the overall in-migration rate was 1.5 persons per thousand, and that of the total rural-rural in-migration was twice as much as the urban-rural migration rate, i.e 1.0 versus 0.5 persons per thousand. There was a remarkable variation among regions. Wollo region had the highest in-migration rate (4.3) followed by Illubabor (3.2). Hararge, Sidamo and Keffa had less than 1.0 person per thousand in-migration rate. Gondar and Arssi regions had rates between 1.1 and 2.7 persons per thousand, respectively. In the case of the urban-rural migration, all regions, with the exception of Wollo (1.8), had in-migration rates that are less than one per thousand. The rural-rural rates were higher for Illubabor and Wollo (2.9 and 2.6, respectively). Arssi, Bale, Wellega and Gojjam regions had rates greater than 1.0 but less than 2 persons per thousand. The rates for the other six regions are less than one person per thousand.

The out-migration rate for all regions was 2.8 persons per thousand. The rural-rural migration rate is more than twice as high as the rural-urban form of migration, i.e. 1.9 versus 0.9 persons per thousand. There is a considerable variation among regions with respect to total out-migration; the highest being for Illubabor (7.8) and the lowest for Hararge (0.6). Rural-rural migration rates were higher for Illubabor (7.2), Wellega (5.2) and Arssi (4.6). The lowest rate (0.4) was that of Hararge. Seven regions had rates below 1.0, four between 1.0 and 1.7 and only Wollo region had the highest rate (2.6) for the rural-urban migration.

b) Rates of Intra-regional Migration

As mentioned earlier, the overall intra-regional migration rate was 30.7 persons per thousand. Among the intra-regional migrants the rural to rural migrants take the lions share (25.4) of the rates followed by the rural to urban migrants (3.5) and the least rate is observed for the urban to rural migrants (1.7 percent). The total rate showed variation among regions, the highest (52.9) being in Gojjam and the lowest (10.2) in Keffa (see Table 6.6). Five regions had their migration rates between 22.8 and 28.3 persons per thousand.

The rural-rural inter-regional migration rate in Gojjam (47.2) ranked first followed by Arssi (35.9). The least rural-

Table 6.5 Inter-regional Migration Rates (Per 1000) By Type, Form And Region ; Rural Ethiopia, 1986/87

Region	In-migration			Out-migration			Population
	R-R	U-R	All	R-R	R-U	All	
Arssi	1.9	0.8	2.7	4.6	1.5	6.1	1818189
Bale	1.9	0.7	2.5	3.5	1.1	4.6	681088
Gamo Gofa	0.5	0.9	1.4	0.7	1.7	2.4	1161921
Gojjam	1.1	0.5	1.6	1.4	0.8	2.2	3320513
Gondar	0.5	0.6	1.1	2.2	1.7	3.9	1917694
Hararge	0.2	0.3	0.5	0.4	0.2	0.6	2668702
Illubabor	2.9	0.4	3.2	7.2	0.6	7.8	987885
Keffa	0.3	0.5	0.8	0.5	0.7	1.2	1983854
Shewa	0.9	0.3	1.1	1.2	0.6	1.8	7282534
Sidamo	0.5	0.2	0.7	0.7	0.6	1.3	3880212
Wellega	1.2	0.4	1.6	5.2	0.4	5.7	2554392
Wollo	2.6	1.8	4.3	1.1	2.6	3.7	2419496
Total	1.0	0.5	1.5	1.9	0.9	2.8	30676480

R-R= Rural to Rural U-R= Urban to Rural R-U= Rural to Urban

Table 6.6 Intra-regional Migration Rates (Per 1000) By Type, Form And Region; Rural Ethiopia , 1986/87

Region	Rural-Rural	Urban-Rural	Rural-Urban	All	Population
Arssi	35.9	1.6	5.1	42.5	1818189
Bale	11.3	1.5	2.4	15.1	681088
Gamo Gofa	32.6	0.9	1.6	35.1	1161921
Gojjam	47.2	1.9	3.8	52.9	3320513
Gondar	30.1	3.1	5.7	39.0	1917694
Hararge	19.6	1.2	1.9	22.8	2668702
Illubabor	19.3	0.8	2.8	23.0	987885
Keffa	8.9	0.2	1.1	10.2	1983854
Shewa	19.1	3.2	6.0	28.3	7282534
Sidamo	28.6	0.8	1.9	31.3	3880212
Wellega	24.7	0.5	2.3	27.6	2554392
Wollo	21.4	1.2	2.3	24.9	2419496
Total	25.4	1.7	3.5	30.7	30676480

rural migration rates were observed in Keffa, (8.9). In the case of urban-rural migration, Shewa (3.2) and Gondar (3.1) had relatively the highest rates of migration per thousand. Five regions had urban-rural migration rates below one person per thousand. Shewa had the highest rate (6.0) of rural-urban migrants followed by Gondar (5.7). While Keffa (1.1) had the lowest rate.

6.3 The Age Pattern and Sex ratio of Internal Migrants

a) The Age Pattern and Sex ratio of Inter-regional Migrants

Migration is age selective and this is borne out by the data presented in Tables 6.7 and 6.8. Examination of the tables reveals that the age distribution followed a similar pattern for both in-migrants and out-migrants. However, in the case of the in-migrants the concentration reaches its peak at age group 20-29 and starts declining thereafter to age group 30-39 (see Table 6.7), while for the out-migrants the peak shifted to age group 10-19 and starts declining to age group 20-29 (see Table 6.8). In all the cases, the pattern reaches low for the age group 40-49 and revives at older ages of 50 years and above (See Fig. 6.1).

The above mentioned statements about the age pattern, hold true for all regions except for Bale, Illubabor, Sidamo, Wellega and Wollo for the rural-rural; Arssi and Keffa for the urban to rural form of in-migration; and Gojjam and Keffa for rural-rural; Hararge and Illubabor for rural to urban forms of out-migration; where the peak shifts either to the right or to the left.

Sex ratio of inter-regional migrants is also given in the tables mentioned above. Resulting analysis suggests that in all forms of in/out-migration, male migrants outnumbered their female counter parts.

The age-specific sex ratio shown at the bottom of each table indicates that in all the age groups and for all the forms, migration was predominated by males, excepting for the age group 0-9 for both forms of in-migration; and for the age groups 50 years and over in the urban-rural in-migration and rural-urban out-migration where the sex ratio was found to be low (See Fig. 6.2). However, the 1981 Demographic Survey and the 1984 National Population and Housing Census revealed that urban areas have female dominated population.

Table 6.7 Percentage Distribution Of Inter-regional In-migrants By Form, Age Group, Sex Ratio And Region ; Rural Ethiopia, 1986/87

Region	Rural – Rural								Urban – Rural							
	0–9	10–19	20–29	30–39	40–49	50+	Total	S.R*	0–9	10–19	20–29	30–39	40–49	50+	Total	S.R*
Arssi	27.9	19.4	28.5	15.0	5.6	3.5	100.0	208.1	32.3	25.0	28.6	8.3	5.8	0.0	100.0	177.1
Bale	31.9	26.2	18.3	12.7	2.8	8.0	100.0	89.9	18.8	20.4	40.0	9.1	5.8	6.0	100.0	172.3
Gamo Gofa	24.5	16.2	43.9	14.0	1.4	0.0	100.0	232.9	14.2	24.3	31.0	19.3	6.5	4.8	100.0	188.2
Gojjam	22.8	22.1	30.6	11.5	5.4	7.6	100.0	400.6	12.5	25.6	40.5	10.5	2.6	8.4	100.0	234.6
Gondar	13.2	18.4	31.1	13.5	16.8	7.1	100.0	191.3	20.2	18.0	41.0	9.9	4.2	6.6	100.0	44.5
Hararge	18.4	25.6	33.5	8.5	14.0	0.0	100.0	114.5	11.3	25.2	47.7	15.7	0.0	0.0	100.0	44.5
Illubabor	27.0	19.6	19.7	17.5	6.1	10.2	100.0	102.6	18.2	4.3	67.6	0.0	9.9	0.0	100.0	195.3
Keffa	0.0	36.1	49.1	0.0	0.0	14.8	100.0	254.9	34.1	0.0	22.0	23.0	3.9	17.1	100.0	46.6
Shewa	22.8	23.2	24.9	10.3	6.7	12.0	100.0	99.5	15.8	25.2	27.3	10.3	6.2	15.2	100.0	99.5
Sidamo	22.3	38.8	33.2	5.7	0.0	0.0	100.0	81.4	22.7	6.4	52.0	14.4	4.5	0.0	100.0	164.6
Wellega	17.7	38.1	25.3	5.9	4.5	8.4	100.0	170.3	0.0	36.4	51.5	12.1	0.0	0.0	100.0	181.6
Wollo	27.6	17.0	17.6	17.8	9.8	10.2	100.0	122.7	19.9	21.3	30.2	6.5	10.3	11.7	100.0	127.4
Total	23.8	23.7	25.5	12.4	6.4	8.3	100.0	–	18.7	21.2	35.5	10.7	6.0	8.0	100.0	–
Sex Ratio	96.1	123.1	171.3	129.0	181.3	102.3	–	127.7	93.2	101.9	241.8	235.4	105.8	63.8	–	141.1

S.R* = sex ratio

Table 6.8 Percentage Distribution Of Inter-regional Out-migrants By Form, Age Group, Sex Ratio And Region; Rural Ethiopia, 1986/87

Region	Rural – Rural								Rural – Urban							
	0–9	10–19	20–29	30–39	40–49	50+	Total	S.R*	0–9	10–19	20–29	30–39	40–49	50+	Total	S.R*
Arssi	23.5	35.2	21.1	11.3	4.2	4.8	100.0	158.3	18.1	38.9	22.7	10.5	4.0	5.7	100.0	214.3
Bale	18.5	33.3	20.3	13.1	7.4	7.4	100.0	127.3	22.6	42.0	13.1	8.8	8.9	4.7	100.0	139.1
Gamo Gofa	14.3	37.4	41.5	6.9	0.0	0.0	100.0	154.5	16.8	31.5	32.5	16.0	2.2	1.1	100.0	326.6
Gojjam	23.5	22.5	29.5	12.9	5.6	6.1	100.0	141.4	8.2	31.4	43.2	9.7	4.6	3.0	100.0	244.1
Gondar	20.0	40.4	18.3	9.1	7.0	5.3	100.0	163.5	11.0	42.7	32.1	9.6	1.0	3.5	100.0	121.2
Hararge	14.0	49.8	15.7	13.2	4.5	2.7	100.0	91.1	3.2	36.1	41.2	14.0	0.0	5.5	100.0	155.5
Illubabor	20.7	32.1	18.5	11.4	7.8	9.4	100.0	128.7	16.2	26.7	35.0	22.2	0.0	0.0	100.0	320.5
Keffa	3.0	13.2	69.2	1.5	6.1	7.1	100.0	79.6	9.3	42.4	22.2	13.5	6.2	6.4	100.0	109.4
Shewa	22.1	31.1	24.4	11.3	5.5	5.5	100.0	122.1	11.5	33.1	32.3	9.5	7.2	6.3	100.0	152.8
Sidamo	8.9	38.7	44.1	3.3	4.4	0.6	100.0	134.5	6.9	46.1	36.6	5.4	1.1	3.9	100.0	147.5
Wellega	16.1	34.8	20.0	16.2	4.8	8.0	100.0	102.0	8.7	39.4	44.0	4.2	1.7	2.1	100.0	227.1
Wollo	16.1	34.8	20.0	16.2	4.8	8.0	100.0	139.6	8.9	37.5	31.7	11.6	3.7	6.6	100.0	113.1
Total	19.7	30.9	23.9	12.2	5.9	7.5	100.0	–	11.2	37.4	32.3	10.5	3.8	4.8	100.0	–
Sex Ratio	103.9	129.7	147.2	120.8	138.0	122.5	–	126.7	158.7	106.6	276.5	190.7	169.4	76.4	–	158.1

S.R = sex ratio

Fig.6.1 Percentage Distribution Of Inter-regional Migrants By Age Group And Form Of Migration, 12 Regions, Rural Ethiopia, 1986/87

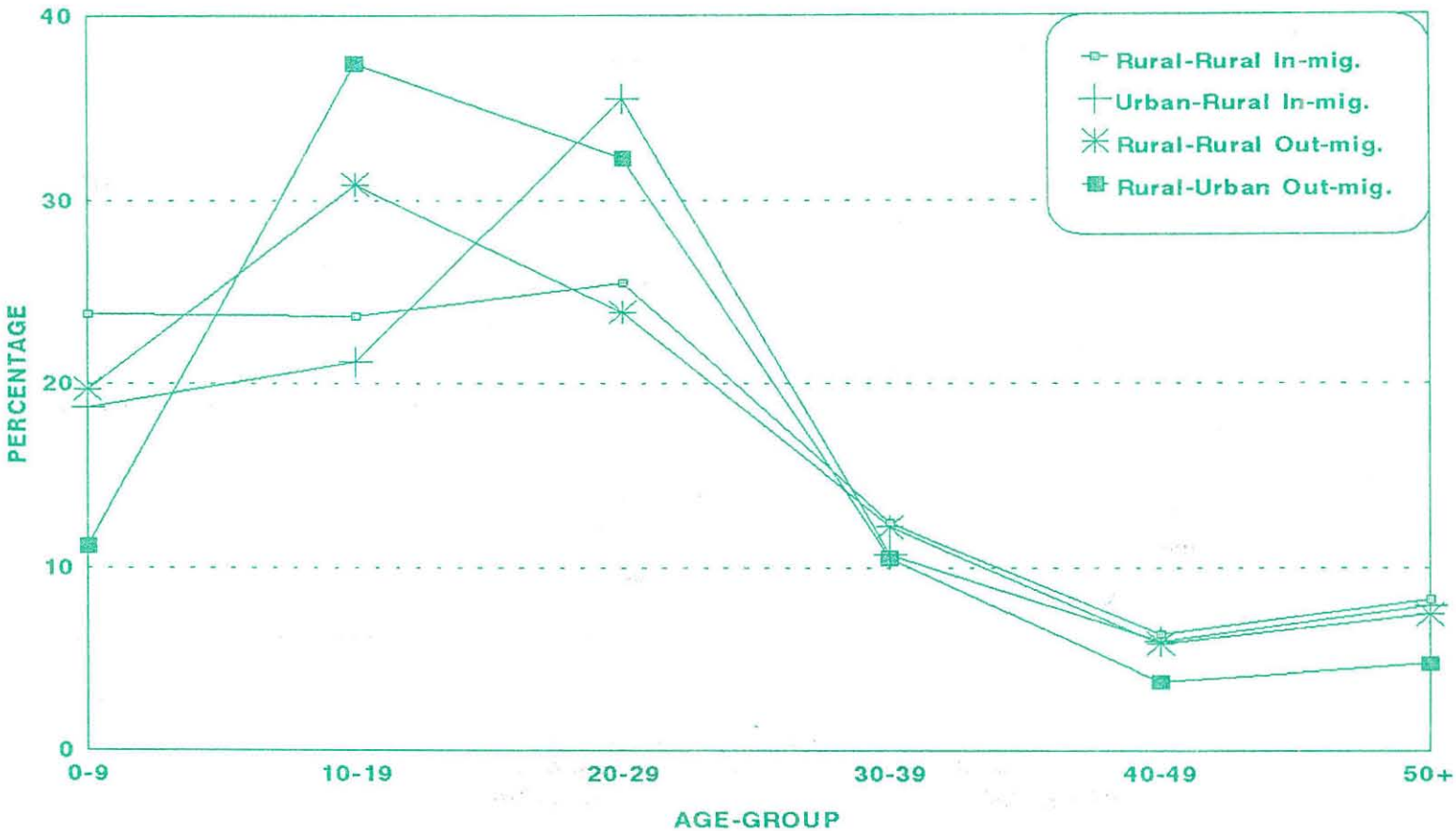
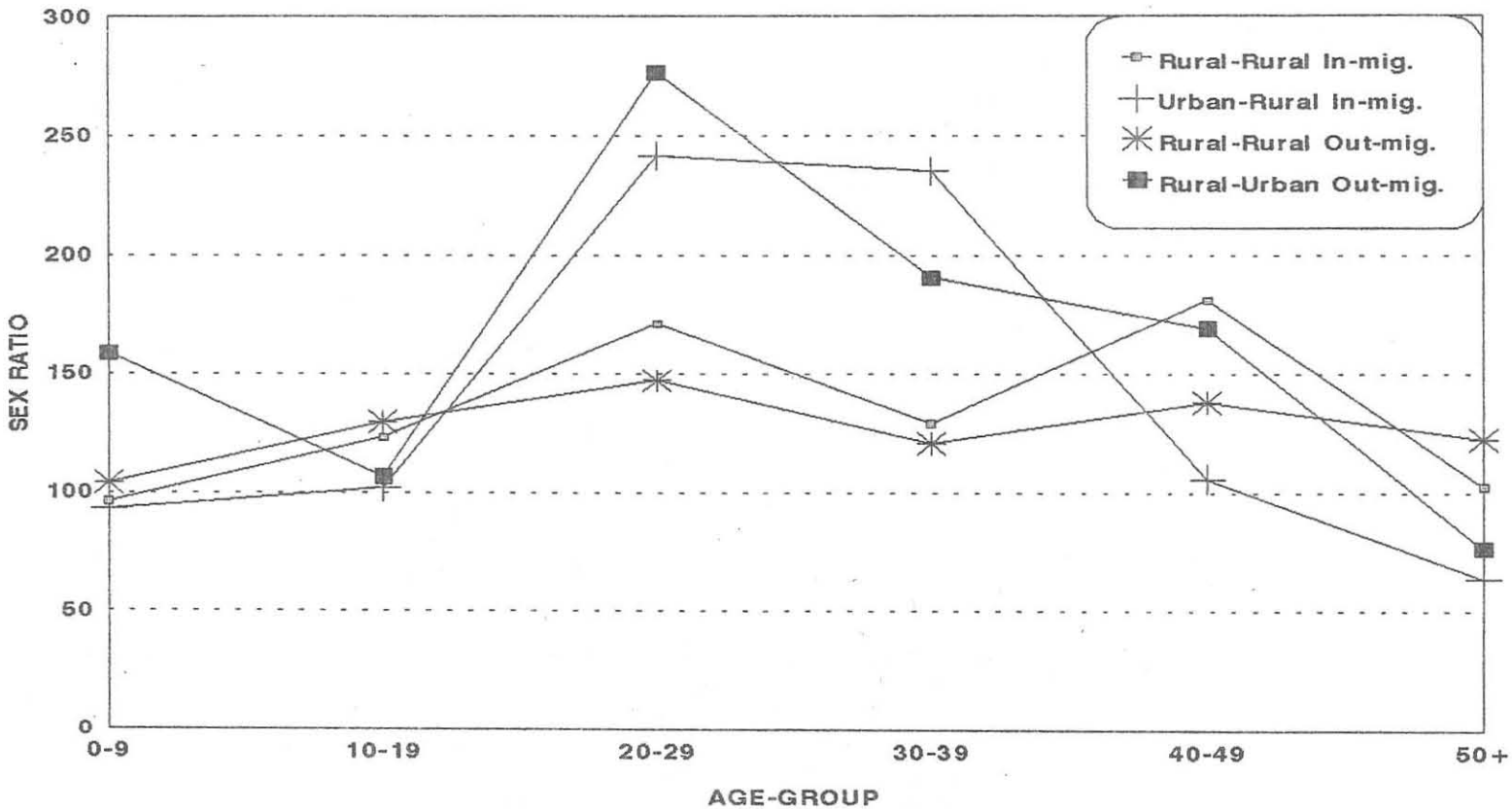


Fig. 6.2 Distribution Of Inter-regional Migrants By Age Group,Sex Ratio And Form Of Migration,12 Regions,Rural Ethiopia,1986/87



The sex ratio showed marked variation among regions. In the case of the rural-rural in-migration, Bale, Shewa and Sidamo regions had female predominance in in-migration and in the other regions the predominance was taken over by males. Eight regions had a sex ratio showing greater number of males than their female counter parts. Gondar, Hararge and Keffa regions experienced a very low sex ratio, 44.5, 44.5 and 46.6 respectively for the urban-rural in-migration and a lone exception Shewa region had a sex ratio of about 100 (99.5).

The rural-rural out-migrants of all regions were predominantly males; exhibiting sex ratios greater than 100 except for Hararge (91.0) and Keffa (79.6) regions. In the case of the rural-urban out-migration all regions indicated consistently marked predominance of males.

b) The Age Pattern and Sex-Ratio of Intra-regional Migrants

The data in Table 6.9 presents the age distribution and sex ratio of the intra-regional migrants. The age distribution for the total of the intra-regional migrants followed a similar pattern as the inter-regional out-migrants, rising at the age group 10-19 and trailing off thereafter; and reviving at the age group 50 and over (see Fig. 6.3). However, this general pattern does not persist in all regions, rather significant variations of the peak age groups are apparent both among the regions and within forms.

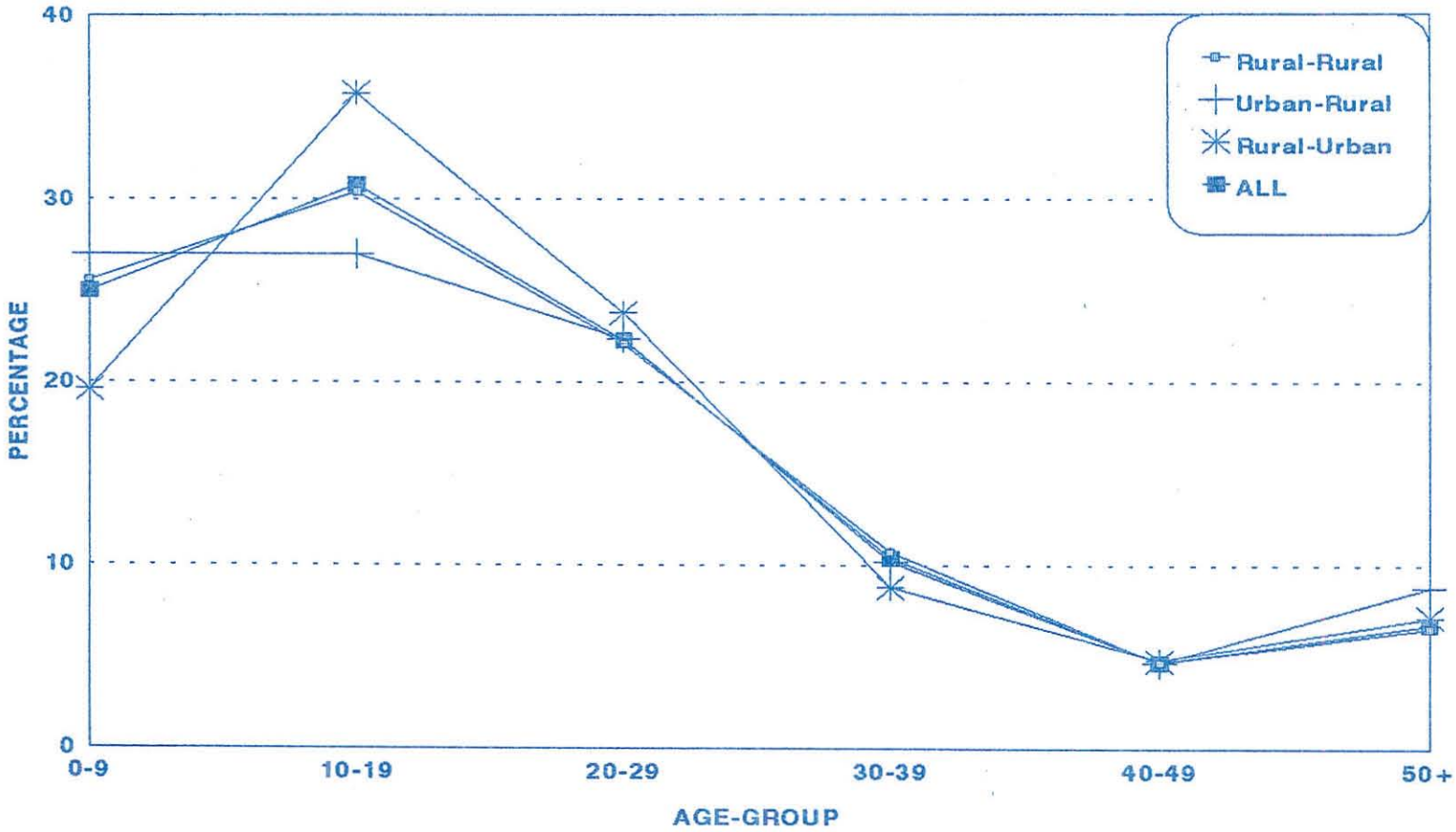
The data indicated consistently marked predominance of females among total intra-regional migrants in all the regions. As mentioned earlier in section 6.1b, this could be due to the relatively higher mobility of females for marriage reasons. The sex ratio among the regions varied from about 45 to 97. Gamo Goffa, Keffa, and Wollo had the highest number of females among intra-regional migrants. However,this finding is violated in the case of the urban-rural and rural-urban migrants. Hararge, Gamo Goffa, Sidamo and Bale for the urban to rural migrants and Arssi, Gamo Goffa, Sidamo, Shewa and Gojjam regions for the rural to urban migrants had a male dominated sex ratio. In the urban-rural intra-regional migration, Illubabor and Keffa exhibited a marked female predominance.

Table 6.9 Percentage Distribution Of Intra-regional Migrants By Form, Age Group, Sex Ratio And Region; Rural Ethiopia ,1986/87

Region	Form of Migr.	Age Group 0-9	10-19	20-29	30-39	40-49	50+	Total	Sex Ratio By form	Total
Arssi	R-R	33.1	31.7	12.5	9.2	5.1	8.5	100	84.0	
	U-R	18.2	44.6	17.0	7.0	2.3	10.9	100	64.3	
	R-U	24.4	36.6	19.3	7.7	5.8	6.2	100	170.2	92.4
Bale	R-R	31.1	31.7	19.7	7.6	4.0	5.8	100	72.8	
	U-R	23.9	17.2	29.6	13.3	8.7	7.3	100	107.8	
	R-U	21.1	28.9	24.2	9.2	5.9	10.7	100	95.3	79.0
Gamo Gofa	R-R	19.9	19.8	46.8	7.8	2.8	2.8	100	40.7	
	U-R	13.7	29.0	37.2	9.8	5.0	5.3	100	138.1	
	R-U	17.5	46.4	14.4	8.6	7.6	5.6	100	123.9	44.7
Gojjam	R-R	25.9	29.7	20.7	14.6	3.9	5.2	100	81.6	
	U-R	28.9	26.3	23.1	9.8	5.7	6.2	100	98.8	
	R-U	23.5	33.7	19.1	10.3	4.2	9.1	100	104.9	83.6
Gondar	R-R	25.7	40.0	18.7	8.1	3.3	4.2	100	65.8	
	U-R	36.1	26.7	13.3	7.5	4.5	11.8	100	83.7	
	R-U	25.5	31.0	20.6	10.2	6.1	6.6	100	63.1	66.7
Hararge	R-R	23.3	33.4	21.1	9.7	5.9	6.6	100	94.6	
	U-R	16.3	23.1	25.6	14.5	10.8	9.9	100	138.1	
	R-U	13.9	43.1	28.3	6.9	2.8	5.0	100	98.0	96.9
Illubabor	R-R	21.0	23.7	19.6	14.3	10.8	10.6	100	69.4	
	U-R	20.0	2.7	46.1	9.5	5.6	16.0	100	36.9	
	R-U	14.6	24.3	27.4	9.8	9.7	14.3	100	93.4	70.6
Keffa	R-R	16.7	35.0	27.5	11.1	4.5	5.3	100	50.9	
	U-R	11.0	20.2	46.3	0.0	5.9	16.6	100	34.9	
	R-U	9.6	26.8	13.7	19.8	19.4	10.7	100	85.7	53.6
Shewa	R-R	25.7	32.3	19.2	10.0	4.1	8.7	100	99.5	
	U-R	28.1	27.7	22.9	10.8	3.3	7.1	100	81.6	
	R-U	17.8	38.9	24.9	8.6	3.7	6.1	100	109.7	76.0
Sidamo	R-R	30.7	22.6	27.1	8.9	4.7	6.1	100	81.4	
	U-R	27.4	27.7	19.0	5.4	7.9	12.7	100	111.9	
	R-U	18.7	34.7	33.3	7.9	3.7	1.7	100	123.8	67.3
Wellega	R-R	21.7	31.6	22.2	11.9	6.1	6.6	100	90.2	
	U-R	12.9	22.0	40.3	7.8	6.0	10.9	100	91.9	
	R-U	28.7	21.9	26.7	5.6	3.0	14.1	100	88.8	90.1
Wollo	R-R	19.9	35.3	21.3	9.5	5.9	8.0	100	58.4	
	U-R	31.9	22.3	13.9	16.7	3.9	11.3	100	60.7	
	R-U	8.9	41.2	25.5	8.0	5.6	10.8	100	64.6	59.0
Total	R-R	25.6	30.4	22.1	10.7	4.7	6.6	100	71.3	
	U-R	27.0	27.0	22.4	10.2	4.7	8.8	100	85.9	
	R-U	19.6	35.8	23.8	8.8	4.8	7.2	100	102.4	
	Total	25.0	30.8	22.3	10.4	4.7	6.8	100		75.2

R-R= Rural to Rural U-R= Urban to Rural R-U= Rural to Urban

Fig.6.3 Percentage Distribution Of Intra-regional Migrants By Age Group And Form Of Migration,12 Regions, Rural Ethiopia,1986/87



6.4 Reasons for Internal Migration

In the 1986-87 experimental vital registration system an attempt was made to study why people migrated or moved from place to place. This was done by asking the migrants in the case of in-migration and the household head in the case of out-migration; as to what motivated the person to leave or come into the household. Since there was no standard category for reasons of migration the main reason, according to the respondent, was accepted as an answer. The main reasons were: Marriage, divorce, separation of spouse, looking for job, illness, employment, (transferred, got a new job ...etc.), seeking further education elsewhere after completion of the level of the nearby school, economic dependency (old and can not make it on his/her own so goes to his/her daughter, grand children ... etc;) father and mother died (so joined grand parents, uncle, aunt, brother ... etc.) and others. In this report some regrouping of marriage and marriage related reasons and job and job related reasons ... etc. is made for the purpose of convenience.

a) Reason for Inter-regional Migration

The proportion of migrants who reported the given main reasons for in and out-migration are presented in Tables 6.10 and 6.11 respectively. As can be observed from Table 6.10, among the reasons given by in-migrants, economic dependency is singled out showing that almost half of the migrants migrated in search of economic assistance. Ignoring the 'other' reasons, the second and third outstanding reasons were job and marriage related reasons, respectively. This finding holds true for half of the regions in the rural to rural migration; while in the other half the ranking alternates. In the case of the urban-rural in-migration, again ignoring the 'other' reasons, reason for economic dependency still runs first in 9 regions followed by marriage and job related reasons alternatively. For Bale, Hararge and Illubabor regions the highest proportion was that of job and job related reasons.

Like the in-migrants most of the inter-regional out-migrants had the highest proportion for economic dependency. The second highest proportion was that of job and job related reason. A large proportion of those migrants who moved from rural to rural areas had economic dependency as a main reason in all but Keffa, Sidamo and Wollo regions. Keffa and Wollo had highest proportion for job and job related reasons while a third of Sidamo migrants

Table 6.10 Percentage Distribution Of Inter-regional In-migrants By Form , Reason And Region ; Rural Ethiopia , 1986/87

Region	Form of Migr.	Reason: Marriage and related	Job and related	Ill-ness	Educ-ation	Econom. Depend.	Others	Total %	Total No.
Arssi	R-R	6.0	14.3	1.8	1.1	55.8	21.0	100	3479
	U-R	5.0	3.0	1.2	4.4	56.8	29.6	100	1366
Bale	R-R	15.2	15.2	0.7	0.3	45.3	23.3	100	1265
	U-R	12.2	37.2	3.3	0.0	33.0	14.4	100	452
Gamo Gofa	R-R	10.3	1.4	0.0	0.0	55.0	33.3	100	556
	U-R	11.3	15.5	0.0	0.0	43.7	29.5	100	1049
Gojjam	R-R	7.5	40.1	0.7	0.5	34.8	16.4	100	3659
	U-R	5.0	21.6	1.3	1.9	42.0	28.1	100	1606
Gondar	R-R	14.7	17.9	0.9	2.1	49.1	15.4	100	935
	U-R	8.8	21.9	2.4	0.0	41.8	25.0	100	1098
Hararge	R-R	29.4	15.9	0.0	4.0	16.3	34.3	100	472
	U-R	6.3	31.1	0.0	0.0	26.4	36.3	100	750
Illubabor	R-R	16.1	13.3	3.5	0.7	49.0	17.3	100	2830
	U-R	23.6	25.7	0.0	0.0	18.2	32.4	100	373
Keffa	R-R	6.0	14.2	0.0	3.7	14.8	61.4	100	621
	U-R	0.0	34.1	3.9	0.0	53.6	8.5	100	909
Shewa	R-R	11.1	14.2	1.4	0.8	57.7	14.8	100	6228
	U-R	17.1	9.3	1.1	2.2	55.4	15.0	100	2046
Sidamo	R-R	25.6	13.9	1.0	6.3	40.4	12.8	100	1845
	U-R	8.7	3.2	0.0	3.2	43.2	41.7	100	815
Wellega	R-R	16.0	12.3	3.1	0.0	60.4	8.2	100	3114
	U-R	17.4	5.9	0.0	3.2	56.6	16.9	100	901
Wollo	R-R	11.5	5.1	0.4	0.4	47.0	35.8	100	6182
	U-R	8.1	4.9	1.6	1.7	52.4	31.2	100	4273
Total	R-R	12.4	15.1	1.4	1.1	48.9	21.2	100	31186
	U-R	9.5	13.3	1.3	1.7	48.0	26.3	100	15638
	All	11.4	14.5	1.3	1.3	48.6	22.9	100	46824

R-R = Rural to Rural U-R = Urban to Rural

Fig. 6.4 Percentage Distribution Of Inter-regional In-migrants By Reason And Form Of Migration 12 Regions, Rural Ethiopia, 1986/87

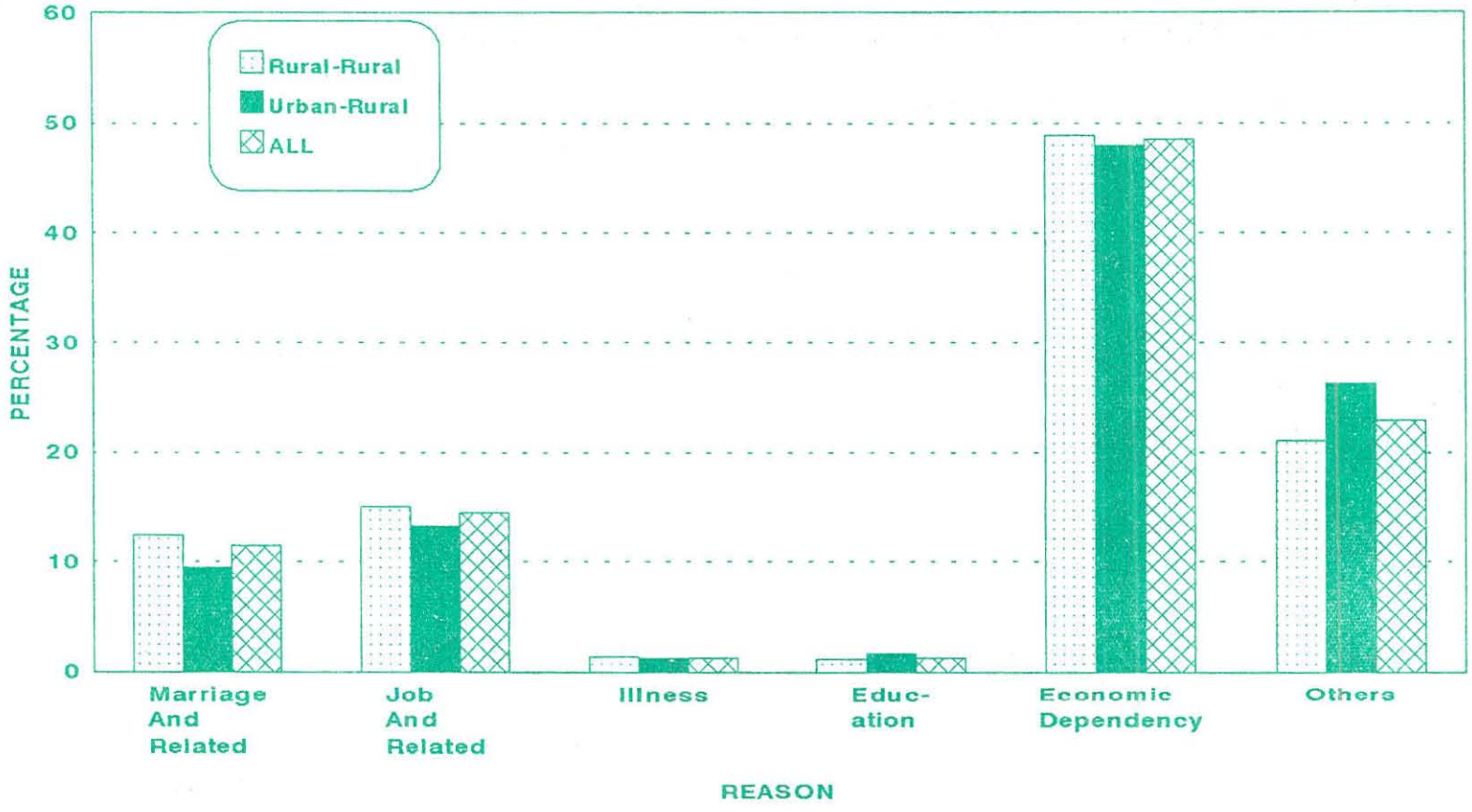
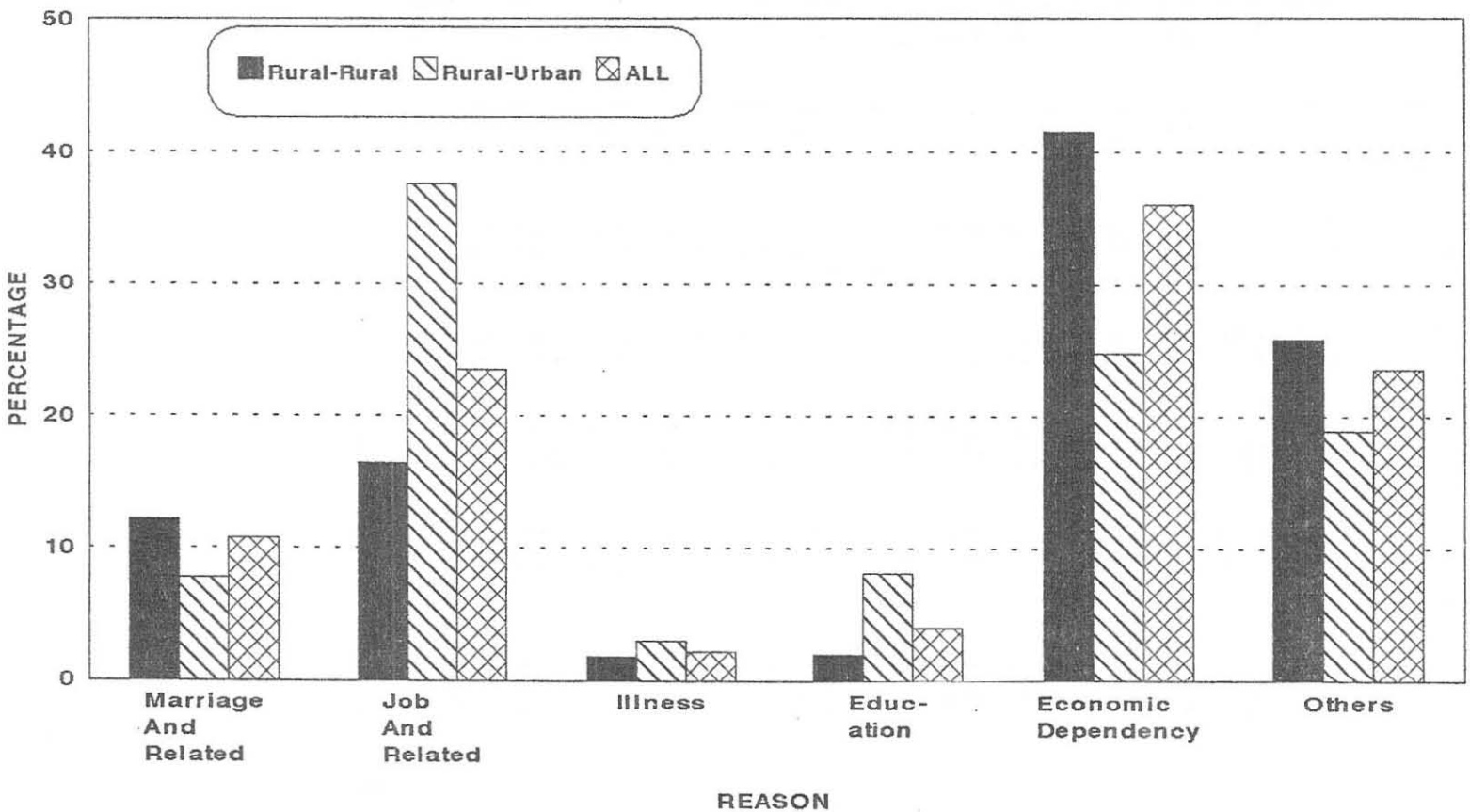


Table 6.11 Percentage Distribution Of Inter-regional Out-migrants By Form, Reason And Region ; Rural Ethiopia , 1986/87

Region	Form of Migr.	Reason: Marriage and related	Job and related	Ill-ness	Educ-ation	Econom. Depend.	Others	Total %	No.
Arssi	R-R	8.7	25.2	2.2	5.9	40.7	17.3	100	8316
	R-U	6.9	37.7	3.4	17.5	25.5	8.9	100	2816
Bale	R-R	24.1	20.1	4.1	5.5	35.2	11.1	100	2380
	R-U	4.3	26.4	0.4	9.9	41.6	17.4	100	765
Gamo Gofa	R-R	12.5	20.2	0.0	3.2	30.4	33.7	100	771
	R-U	4.5	26.6	5.8	3.8	20.1	39.3	100	2022
Gojjam	R-R	8.4	17.5	3.6	0.6	28.7	41.2	100	4558
	R-U	3.5	40.3	8.2	7.3	26.1	14.5	100	2667
Gondar	R-R	7.1	32.1	0.0	1.2	38.3	21.2	100	4266
	R-U	7.0	46.5	2.3	6.8	17.9	19.5	100	3212
Hararge	R-R	18.4	12.8	4.0	3.7	42.0	19.1	100	1036
	R-U	1.5	27.4	0.0	21.4	14.2	35.6	100	585
Illubabor	R-R	5.8	4.5	0.6	0.0	20.7	68.4	100	7117
	R-U	7.9	18.0	0.0	10.6	28.1	35.3	100	555
Keffa	R-R	3.5	36.1	0.0	11.7	17.9	30.8	100	1072
	R-U	4.5	34.5	0.0	1.7	34.7	24.5	100	1353
Shewa	R-R	12.4	13.9	3.2	0.7	55.0	14.8	100	8667
	R-U	8.4	30.5	2.3	8.5	32.6	17.7	100	4674
Sidamo	R-R	30.9	25.4	0.0	3.4	20.4	19.9	100	2797
	R-U	4.7	44.6	0.0	6.5	16.0	28.3	100	2361
Wellega	R-R	11.5	6.0	1.8	0.6	61.3	18.8	100	13377
	R-U	11.0	34.9	5.4	10.4	11.1	27.2	100	1148
Wollo	R-R	28.5	35.1	0.0	0.6	25.7	10.1	100	2715
	R-U	12.9	43.0	2.7	6.0	25.4	10.1	100	6214
Total	R-R	12.2	16.5	1.8	2.0	41.6	25.9	100	57072
	R-U	7.7	37.5	3.0	8.1	24.8	18.9	100	28372
	All	10.7	23.5	2.2	4.0	36.0	23.6	100	85444

R-R = Rural to Rural R-U = Rural to Urban

Fig. 6.5 Percentage Distribution Of Inter-regional Out-migants By Reason And Form Of Migration, 12 Regions, Rural Ethiopia, 1986/87



reported marriage and marriage related reasons as a main reason for out-migration (see Table 6.11).

The highest proportion of migrants from rural to urban areas in 8 regions left for job and job related reasons, while the other 4 regions had migrants who left their usual place of residence for reason of economic dependency, (see Figures 6.4 and 6.5).

b) Reason for Intra-regional Migration

The same category of reasons that were reported for inter-regional migration are summarized in Table 6.12 for intra-regional migrants i.e migrants who moved within a given region. Here again the largest proportion was that of economic dependency. Unlike that of the inter-regional migration, marriage and related reasons stand second while job and job related reason stands third in ranking. The relatively high proportion of migrants moved for 'marriage and marriage related' reasons. This could be due to the high mobility of females for such a reason. Note that in Ethiopia exogamous marriage, in which the bride moves out to live with the bride-groom, is practiced. This finding holds true for rural-rural migrants in all regions except for Wellega and Bale where 'job and job related' reason takes over the second place.

For the urban-rural migrants, the regions formed a group of 5 and 7 where the former group had the second highest proportion for job and job related reasons, while the latter had marriage and marriage related reasons; next to the reason for economic dependency.

The rural to urban migrants had the highest proportion in the category of job and job related reason next to economic dependency in all regions, (see Figure 6.6).

6.5 Seasons of Internal Migration

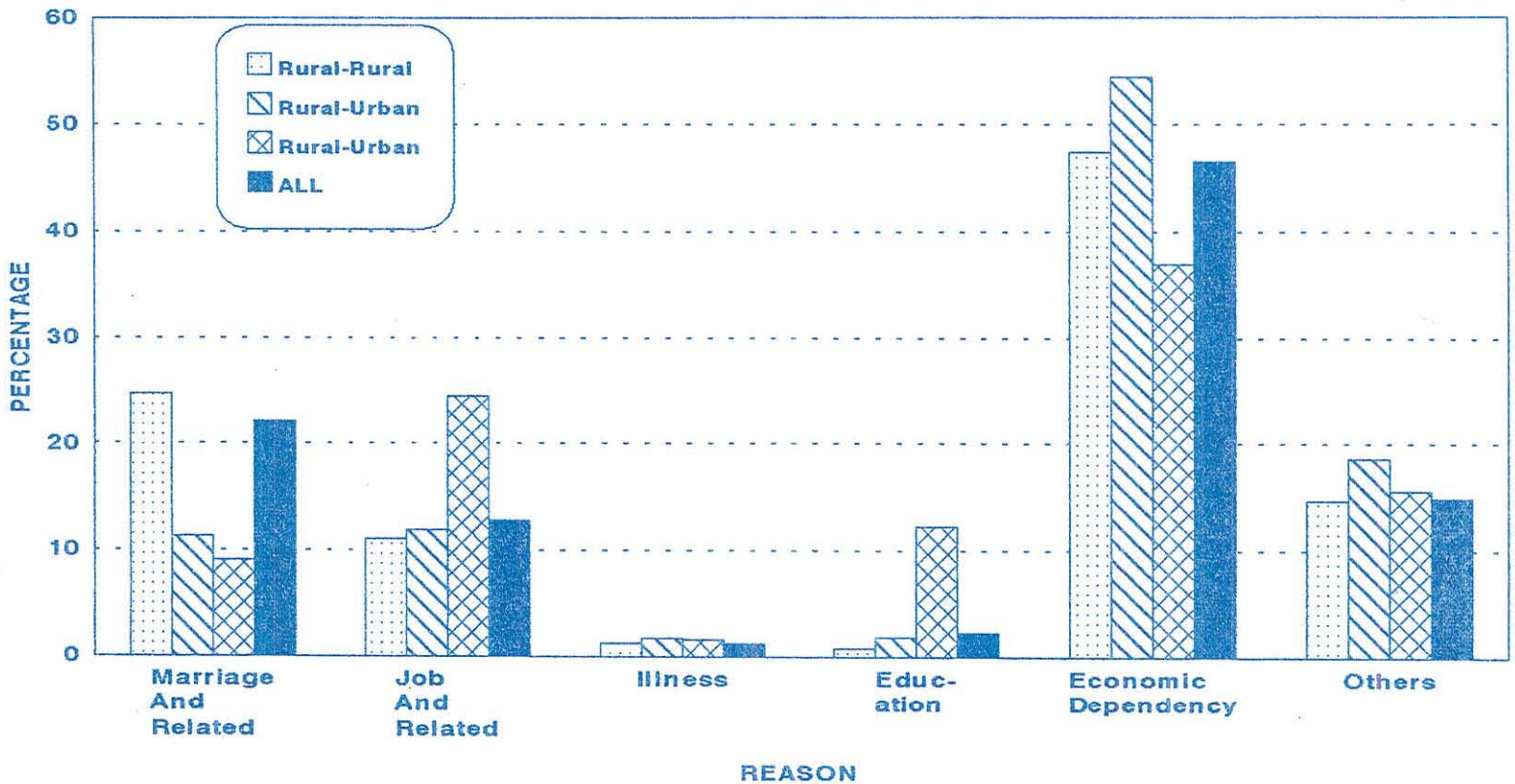
In the 1986-87 experimental vital registration system, an attempt was also made to have some general idea as to whether internal migration shows seasonality or not. The data on seasonality of migration was collected by asking the time (date and month) of departure or arrival of the migrant. Migrants not only decide where to go but also when to go and how to go. Dry seasons are usually preferred or time before and after harvest

Table 6.12 Percentage Distribution Of Intra-regional Migrants By Form Reason And Region ; Rural Ethiopia , 1986/87

Region	Form of Migr.	Reason: Marriage and related	Job and related	Ill-ness	Educ-ation	Econom. Depend.	Others	Total %	Total No.
Arssi	R-R	11.3	8.8	0.9	1.1	59.7	18.1	100	65224
	U-R	13.4	6.1	0.7	3.1	57.2	19.6	100	2877
	R-U	7.5	13.6	1.8	27.7	28.1	21.2	100	9207
Bale	R-R	24.2	25.1	1.7	2.2	34.7	12.0	100	7672
	U-R	16.7	43.5	0.3	3.1	29.5	6.9	100	1010
	R-U	13.6	34.9	1.4	4.8	41.6	3.8	100	1629
Gamo Gofa	R-R	23.6	6.8	1.4	0.2	53.7	14.4	100	37846
	U-R	23.8	12.0	0.0	5.0	43.6	15.6	100	1081
	R-U	8.0	30.3	1.4	10.1	30.5	19.8	100	1903
Gojjam	R-R	30.2	11.7	1.4	0.6	39.7	16.4	100	156804
	U-R	7.0	13.9	1.2	2.2	52.4	23.4	100	6206
	R-U	6.7	24.1	1.5	11.3	42.3	14.1	100	12512
Gondar	R-R	31.1	12.6	2.1	0.2	39.4	14.4	100	57669
	U-R	9.8	10.4	1.7	0.7	47.6	29.7	100	6032
	R-U	7.2	18.0	1.3	10.7	36.1	26.8	100	11026
Hararge	R-R	18.0	17.4	0.5	1.9	50.7	11.5	100	52384
	U-R	13.7	11.5	1.6	0.0	56.9	16.3	100	3265
	R-U	10.0	27.0	2.8	19.4	28.5	12.3	100	5109
Illubabor	R-R	24.1	8.5	1.2	0.3	41.1	24.8	100	19093
	U-R	23.5	45.3	0.0	0.0	28.5	2.7	100	779
	R-U	4.9	29.5	0.4	8.5	34.1	22.7	100	2804
Keffa	R-R	46.0	6.9	2.8	0.3	34.3	9.7	100	17743
	U-R	30.0	22.0	0.0	0.0	22.2	25.9	100	410
	R-U	6.8	34.3	3.3	2.9	35.9	16.9	100	2136
Shewa	R-R	23.1	11.1	1.9	1.8	48.6	13.5	100	138871
	U-R	12.1	11.9	2.1	2.5	58.0	13.4	100	23544
	R-U	10.0	26.9	2.2	10.5	39.0	11.4	100	43376
Sidamo	R-R	20.5	2.9	0.6	0.4	55.3	20.3	100	110981
	U-R	6.0	3.1	3.2	0.0	60.9	26.7	100	3195
	R-U	8.9	21.4	0.1	15.1	35.1	19.4	100	7341
Wellega	R-R	19.7	23.4	0.9	0.5	50.0	5.6	100	63054
	U-R	6.5	13.4	4.0	4.4	56.2	15.5	100	1391
	R-U	5.6	23.6	1.4	9.3	47.1	12.9	100	5954
Wollo	R-R	37.2	10.8	0.7	0.1	42.0	9.1	100	51878
	U-R	8.2	3.6	1.2	0.8	55.1	31.1	100	2863
	R-U	18.7	27.9	0.4	5.9	26.5	20.6	100	5526
Total	R-R	24.7	11.1	1.3	0.8	47.4	14.7	100	779219
	U-R	11.3	11.9	1.8	1.9	54.4	18.7	100	52653
	R-U	9.1	24.5	1.7	12.2	36.9	15.6	100	108523
	All	22.1	12.8	1.3	2.3	46.6	14.9	100	940395

R-R = Rural to Rural U-R = Urban to Rural R-U = Rural to Urban

Fig. 6.6 Percentage Distribution Of Intra-regional Migrants By reason And Form Of Migration, 12 Regions, Rural Ethiopia, 1986/87



may be suitable ... etc. for a migrant to make a move. Tables 6.13, 6.14 and 6.15 and Figures 6.7, 6.8, and 6.9 present findings about seasonality of migration.

a) Seasons of Inter-regional Migration

The findings presented in Tables 6.13 and 6.14 for in and out migrants show some variation among months for the total migrants. It appears that in both the tables, the month of Tikemt was much favored by inter-regional migrants. Months like, Sene, Hamle, Nehase and Meskerem are less favored while those months, Hidar to Megabit/Miazia lie in between. The less favored months are rainy months. Rivers are difficult to cross, transportation is less available and in many areas these are the ploughing and sowing months while the best favored month Tikemt comes right after the rains with bright day and less work in agriculture. Months from Hidar to Yekatit are harvest months in most areas of the country. Megabit, Miazia and Ginbot are months of the dry season and could be considered as favorable months for fair number of migrants to move. However, this general pattern has variation among regions.

The rural-rural in-migrants of Bale, Arssi, Gamo Goffa and Keffa favored Tikemt. Those of Gondar and Hararge favored Tir; those of Wellega and Wollo favored Yekatit; those of Gojjam and Illubabor favored Ginbot ...etc (see Table 6.13). In the case of the urban-rural in-migration, most of Arssi, Gojjam, Gondar, Hararge and Sidamo migrants made their moves in the month of Tikemt. Those of Keffa, Bale and Wellega in Tahsas; Shewa and Wollo in Yekatit.

As can be observed from Table 6.14, most of the out-migrants of Arssi, Bale and Keffa made their moves in Tikemit; Wellega and Wollo in Tir; Gamo Goffa and Shewa in Yekatit; Gojjam and Illubabor in Megabit; Sidamo, Gondar and Hararge in Hidar, Miazia and Nehase, respectively. On the other hand, most of the rural-urban out-migrants of Arssi and Keffa made their moves in Meskerem and Sene months respectively. A large proportion of out-migrants of the remaining ten regions moved out of their respective usual places of residence in the month of Tikmet.

b) Seasons of Intra-regional Migration

Distribution of intra-regional migrants by month of migration is presented in Table 6.15. The table shows that the

Table 6.13 Percentage Distribution Of Inter-regional In-migrants By Form , Month And Region ; Rural Ethiopia , 1986/87

Region	Form of Migr.	Month												Total	
		Meskerem	Tikimt	Hidar	Tahsas	Tir	Yekatit	Megabit	Miazia	Ginbot	Sene	Hamle	Nehase	%	No.
Arssi	R-R	6.1	34.4	10.4	3.3	9.5	10.2	6.8	2.7	3.4	5.8	4.5	2.9	100.0	3479
	U-R	4.8	28.5	3.1	0.0	7.8	7.3	7.0	16.3	1.9	9.6	9.9	3.9	100.0	1366
Bale	R-R	8.9	13.0	4.7	7.4	10.1	13.0	10.1	5.5	4.6	3.5	8.5	10.7	100.0	1265
	U-R	7.3	10.2	16.4	24.3	12.6	13.7	6.2	5.3	0.0	1.3	0.7	2.0	100.0	452
Gamo Gofa	R-R	6.1	30.6	5.4	1.8	11.3	8.8	7.2	4.5	3.2	9.4	9.2	2.5	100.0	556
	U-R	7.5	8.7	7.2	2.3	18.8	8.2	3.5	15.7	15.5	1.7	7.5	3.2	100.0	1049
Gojjam	R-R	6.1	5.5	5.6	3.1	5.7	14.6	12.0	12.4	23.1	7.4	2.1	2.4	100.0	3659
	U-R	5.2	32.3	10.6	2.7	6.2	2.9	6.0	8.7	9.5	3.9	4.6	7.5	100.0	1606
Gondar	R-R	2.1	15.3	9.6	8.8	19.1	8.8	11.0	6.2	2.1	7.2	7.9	1.8	100.0	935
	U-R	1.8	18.6	8.5	6.9	10.0	13.8	7.1	12.4	3.1	7.8	1.6	8.8	100.0	1098
Hararge	R-R	9.3	14.0	11.7	7.6	18.0	12.7	4.7	4.0	0.0	0.0	14.0	4.0	100.0	472
	U-R	12.5	29.2	0.0	0.0	0.0	2.4	11.7	10.1	0.0	0.0	6.3	27.7	100.0	750
Illubabor	R-R	11.3	14.3	6.7	8.2	8.6	7.1	5.4	8.5	13.2	5.8	4.7	6.2	100.0	2830
	U-R	6.2	20.4	0.0	0.0	0.0	0.0	9.9	49.3	0.0	0.0	0.0	14.2	100.0	373
Keffa	R-R	17.1	35.7	3.7	8.7	3.9	0.0	7.4	10.5	0.0	3.7	9.3	0.0	100.0	621
	U-R	0.0	8.8	0.0	57.1	0.0	0.0	0.0	0.0	17.1	0.0	0.0	17.1	100.0	909
Shewa	R-R	2.1	8.0	8.4	7.4	8.1	6.5	12.7	16.4	1.2	10.0	9.0	10.2	100.0	6228
	U-R	2.9	10.4	8.3	3.4	6.4	17.1	9.0	11.8	14.0	12.6	2.9	1.4	100.0	2046
Sidamo	R-R	14.4	6.8	23.4	7.5	6.2	11.4	4.4	2.9	4.4	4.9	6.7	7.0	100.0	1845
	U-R	11.0	19.8	9.4	17.4	8.5	9.6	3.2	3.2	0.0	3.2	6.4	8.3	100.0	815
Wellega	R-R	8.2	10.4	6.6	6.5	3.8	17.2	13.2	7.4	7.1	13.1	5.1	1.5	100.0	3114
	U-R	3.2	19.5	15.1	26.0	10.1	8.8	0.0	0.0	0.0	17.6	0.0	0.0	100.0	901
Wollo	R-R	2.2	17.1	7.9	8.1	6.6	22.3	16.4	5.9	3.7	2.4	5.0	2.4	100.0	6182
	U-R	0.4	8.1	6.5	6.5	13.7	13.2	11.6	9.9	17.6	11.5	0.6	0.4	100.0	4268
Total	R-R	6.0	14.6	8.5	6.6	7.7	12.8	11.1	8.6	6.6	6.7	6.0	4.8	100.0	31186
	U-R	3.8	16.1	7.1	9.6	9.2	9.8	7.4	10.5	10.0	7.9	3.2	5.4	100.0	15638
	ALL	5.2	15.1	8.1	7.6	8.2	11.8	9.9	9.3	7.7	7.1	5.1	5.0	100.0	46824

R-R =Rural to Rural U-R = Urban to Rural

Fig. 6.7 Percentage Distribution Of Inter-regional In-migrants By Month Of Migration, 12 Regions, Rural Ethiopia, 1986/87

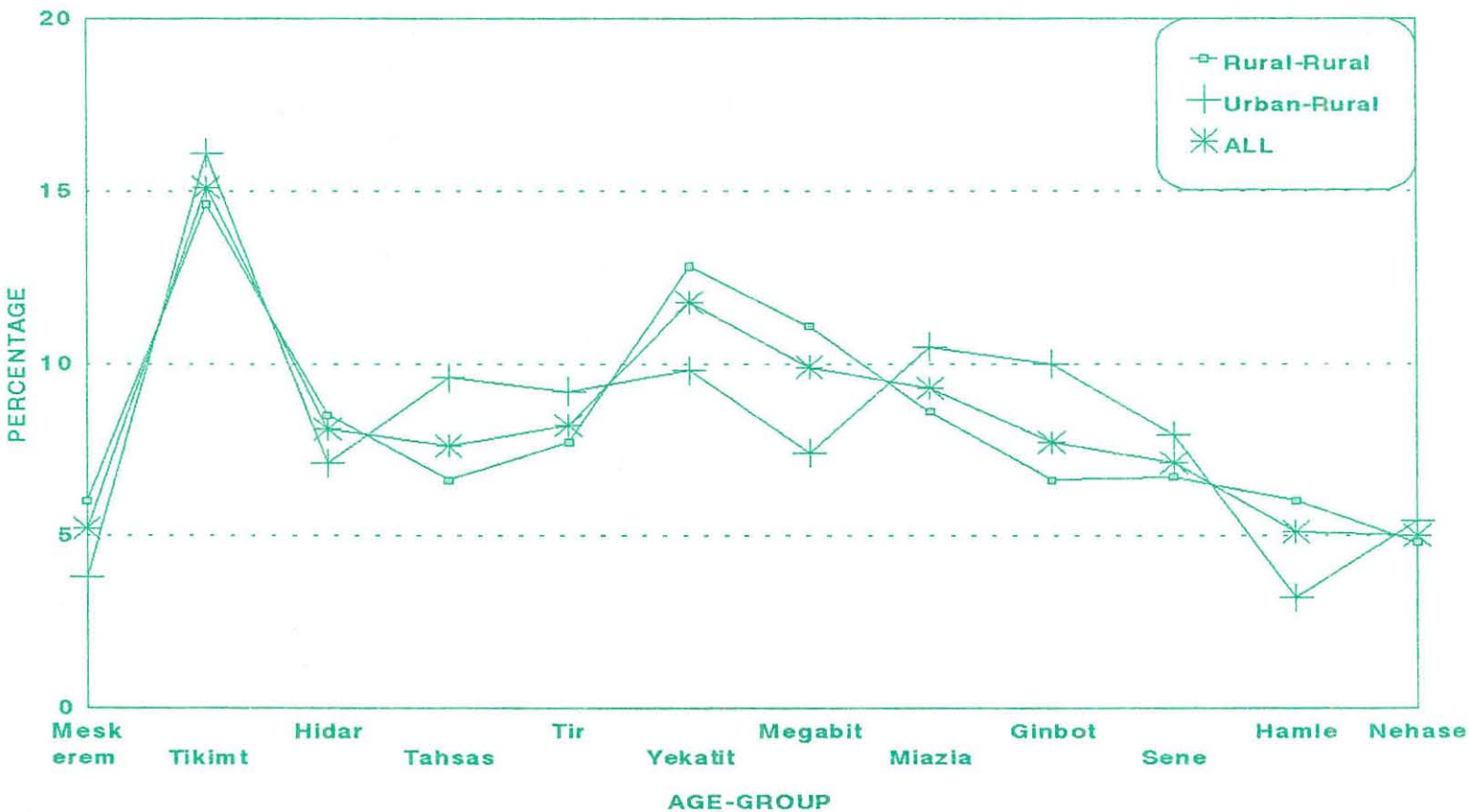
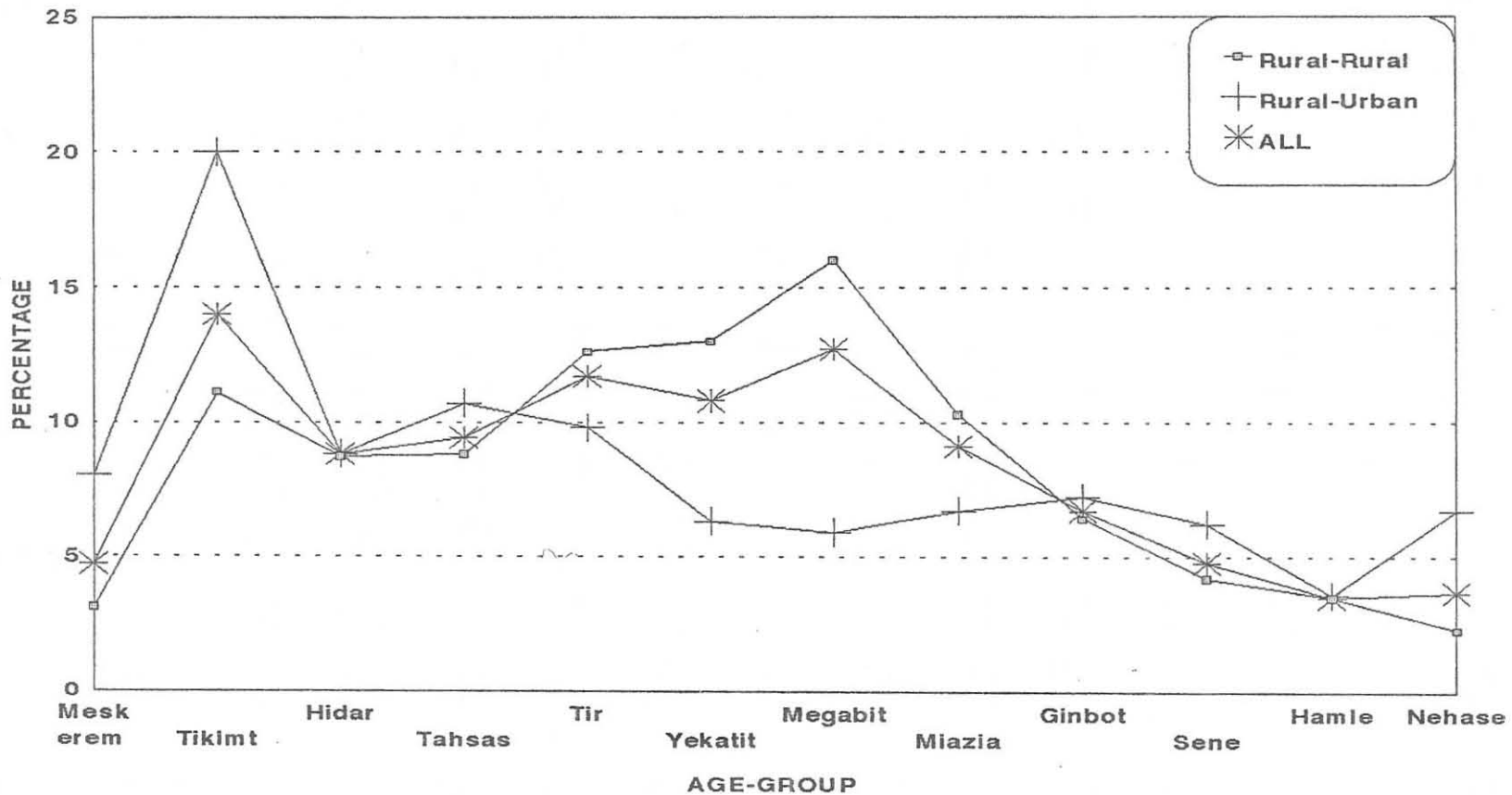


Table 6.14 Percentage Distribution Of Inter-regional Out-migrants By Form , Month And Region; Rural Ethiopia, 1986/87

Region	Form of Migr.	Month												Total	
		Meskerem	Tikimt	Hidar	Tahsas	Tir	Yekatit	Megabit	Miazia	Ginbot	Sene	Hamle	Nehase	%	No.
Arssi	R-R	4.1	17.9	9.2	12.2	12.4	8.4	11.1	10.3	5.0	4.5	3.2	1.7	100.0	8316
	R-U	14.9	12.9	10.2	7.6	4.9	2.7	7.7	4.8	12.1	6.0	7.0	9.3	100.0	2816
Bale	R-R	3.6	20.3	6.9	4.9	20.0	10.5	9.5	12.2	2.5	3.5	3.4	2.7	100.0	2380
	R-U	5.6	20.8	12.5	15.4	13.7	3.3	7.3	5.6	5.0	5.2	0.9	4.6	100.0	765
Gamo Gof	R-R	7.3	15.6	11.9	6.7	9.7	21.9	1.3	5.7	4.5	8.0	6.5	0.8	100.0	771
	R-U	12.8	20.7	14.0	10.3	7.9	9.2	3.1	4.7	1.3	1.6	2.7	11.6	100.0	2022
Gojjam	R-R	0.5	7.3	2.1	2.3	3.0	11.5	49.6	11.2	4.9	4.8	2.2	0.7	100.0	4558
	R-U	2.1	18.2	5.1	5.9	9.8	7.6	8.7	10.8	13.6	5.7	3.9	8.5	100.0	2667
Gondar	R-R	2.1	9.2	4.0	4.1	11.1	14.1	12.4	26.0	7.4	6.0	0.5	3.1	100.0	4266
	R-U	2.9	14.4	4.0	10.2	14.1	9.1	10.4	6.5	13.4	5.2	3.6	6.2	100.0	3212
Hararge	R-R	1.8	18.9	13.7	4.2	12.8	5.0	12.1	0.0	4.0	5.4	1.7	20.4	100.0	1036
	R-U	5.5	48.4	0.0	1.5	7.0	8.7	1.5	0.0	0.0	4.8	0.0	22.6	100.0	585
Illubabor	R-R	1.2	6.8	20.2	10.7	12.3	12.5	21.8	10.1	1.4	1.5	1.2	0.4	100.0	7117
	R-U	10.1	30.5	4.9	26.8	0.0	0.0	2.7	8.3	6.8	0.0	9.9	0.0	100.0	555
Keffa	R-R	8.4	19.9	16.7	14.5	0.0	0.0	14.5	16.3	6.3	0.0	3.5	0.0	100.0	1072
	R-U	2.8	12.1	10.3	21.3	13.2	5.1	6.5	0.0	0.0	27.1	1.6	0.0	100.0	1353
Shewa	R-R	1.1	6.7	8.7	12.3	10.3	16.5	16.1	8.3	12.1	2.0	4.7	1.3	100.0	8667
	R-U	11.2	16.7	10.2	12.1	9.5	7.1	3.0	9.5	7.3	3.7	1.0	8.7	100.0	4674
Sidamo	R-R	8.0	12.5	20.6	13.6	4.9	11.6	7.5	4.6	4.9	3.4	6.8	1.6	100.0	2797
	R-U	10.8	19.8	18.5	7.8	6.0	8.3	6.9	6.6	4.4	0.0	2.4	8.6	100.0	2361
Wellega	R-R	1.2	11.6	3.7	7.1	17.9	17.0	12.2	7.6	8.3	4.9	5.1	3.3	100.0	13377
	R-U	4.9	25.9	5.7	11.8	8.3	7.5	3.7	2.9	5.1	0.0	19.9	4.4	100.0	1148
Wollo	R-R	19.0	4.6	4.6	7.8	20.8	6.9	4.9	11.9	3.8	10.7	2.2	2.9	100.0	2715
	R-U	7.0	26.1	6.8	10.8	12.3	4.4	5.3	7.5	4.9	10.2	2.2	2.5	100.0	6214
Total	R-R	3.1	11.1	8.7	8.8	12.6	13.0	16.0	10.3	6.4	4.2	3.5	2.3	100.0	57072
	R-U	8.0	20.0	8.8	10.7	9.8	6.3	5.9	6.7	7.2	6.2	3.6	6.7	100.0	28372
	ALL	4.7	14.0	8.8	9.4	11.7	10.8	12.7	9.1	6.7	4.8	3.5	3.7	100.0	85444

R-R = Rural to Rural R-U = Rural to Urban

Fig. 6.8 Percentage Distribution Of Inter-regional Out-migrants By Month Of Migration, 12 Regions, Rural Ethiopia, 1986/87



overall intra-regional migration had a bimodal pattern; the relatively high proportions reaching a peak in Tikmet and in Tir, trailing off starting with the month of Miazia. However, this general pattern is violated when we closely investigate each region by rural-rural, rural-urban and urban-rural breakdown. In the case of the rural-rural intra-regional migration, most of the migrants in Bale and Illubabor regions made their moves in Tikemt; while those in Gamo Goffa, Hararge and Sidamo regions, made their moves in Thasas, Tir and Yekatit, respectively. Migrants of Shewa and Wollo moved in Megabit; while those of Arssi, Gojjam, Keffa and Wellega moved in the month of Miazia.

The urban-rural migration showed relatively high proportion for regions of Keffa, Sidamo and Wollo in the month of Tikmet; Arssi and Illubabor in Yekatit; Shewa and Wellega in Sene; Hararge, Bale, Gojjam, Gondar and Gamo Goffa in Meskerem, Hidar, Megabit, Ginbot and Hamle months, respectively.

Examination of the rural-urban migration reveals that unlike that of the other forms of migration the month of Tikmet is not the most favoured month by the rural-urban migrants. Instead Meskerm and Yekatit are most preferred. The month of Meskerem had relatively higher proportion for Arssi and Shewa migrants; Tir for Illubabor, Wellega and Wollo; Yekatit for Gondar and Sidamo; while Tahsas, Megabit, Ginbot, Sene and Hamle for Hararge, Gamo Goffa, Gojjam, Keffa and Bale regions, respectively.

6.6 Streams of Inter-regional Migration

In this section of the report streams of inter-regional migration will be discussed. Stream of migration is defined as migration having common region of origin and destination. In the analysis only cases of in-migration to a given region are considered. This is because of the assumption that in a survey of this type, it is very likely to catch in-migrants to a given region who can readily tell their origin of migration than the information on the out-migrants who may or may not end up at the destination they are said to have gone to. Therefore, the volume of inter-regional in-migrants is further cross classified by region of origin and destination in Table 6.16.

Examination of the data in the table shows an interesting feature. The migrants, in general, are more attracted to move to the neighboring regions. This is confirmed by the respective

Table 6.15 Percentage Distribution of Intra-Regional Migrants by Form, Month and Region; Rural Ethiopia , 1986/87

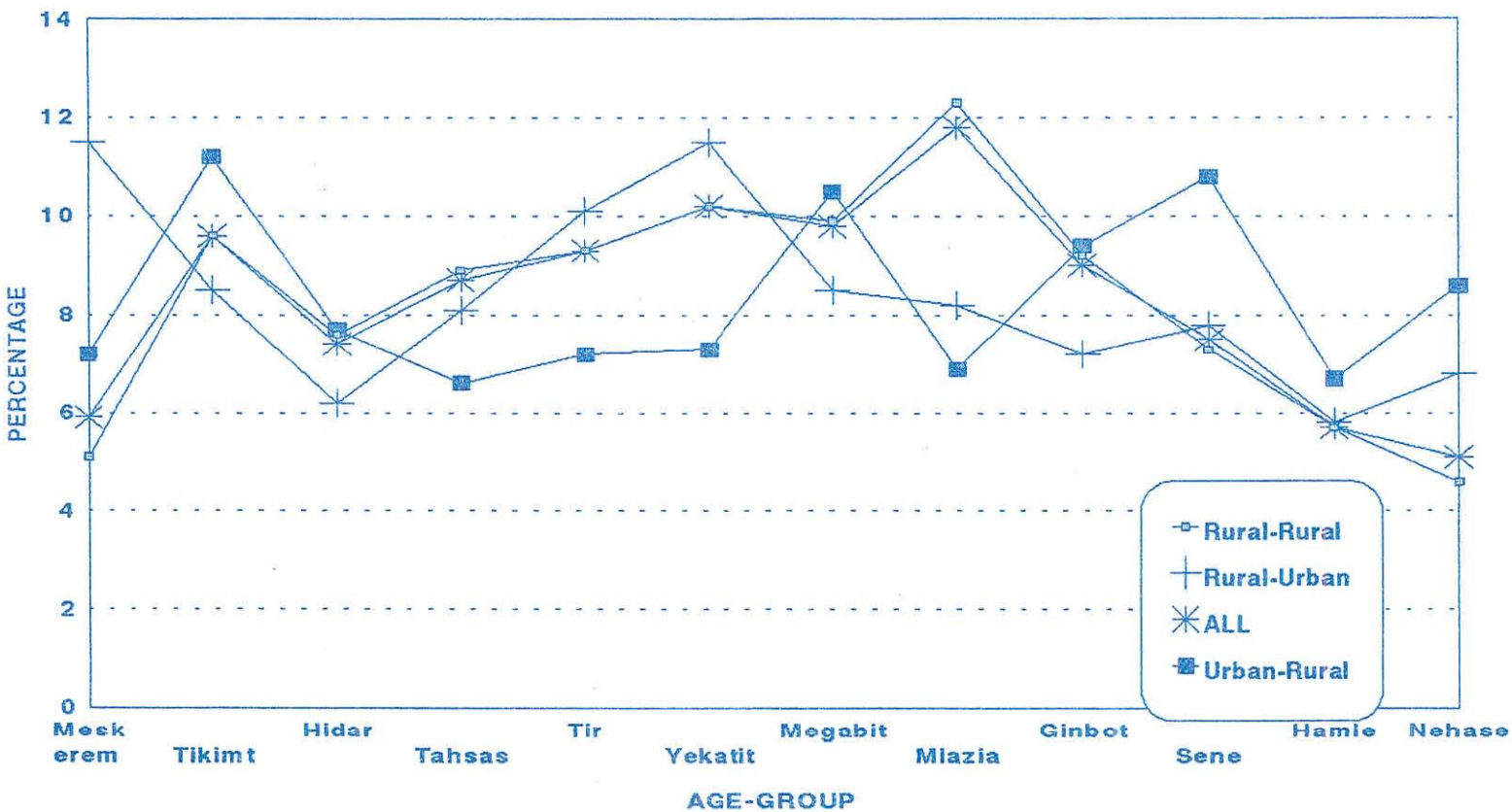
Region	Form of Migr.	Month												Total	
		Meskerem	Tikimt	Hidar	Tahsas	Tir	Yekatit	Megabit	Miazia	Ginbot	Sene	Hamle	Nehase	%	No.
Arssi	R-R	4.9	10.5	5.1	8.6	6.9	12.4	6.3	22.1	5.8	5.5	6.7	5.2	100	65226
	U-R	5.9	11.7	5.4	12.0	8.3	16.6	10.3	4.9	5.5	3.0	6.5	10.0	100	2877
	R-U	20.2	5.9	5.8	3.1	9.0	17.5	9.1	7.5	3.7	6.3	2.4	9.6	100	9207
Bale	R-R	5.4	15.2	12.4	12.5	8.4	9.2	10.1	6.5	6.5	4.0	5.4	4.4	100	7672
	U-R	5.3	10.2	14.9	14.8	3.5	11.7	5.5	10.7	4.1	9.4	4.0	6.0	100	1010
	R-U	6.0	10.5	5.8	6.9	5.6	6.9	11.7	9.0	10.8	4.2	15.1	7.4	100	1629
Gamo Gofa	R-R	2.9	7.9	9.7	34.7	5.2	6.7	6.5	6.1	5.0	4.5	5.2	5.5	100	37846
	U-R	8.6	6.1	12.3	8.8	5.5	5.1	2.5	9.7	8.1	10.2	15.8	7.3	100	1081
	R-U	15.3	10.0	1.2	6.4	2.5	5.6	22.9	12.6	2.1	4.2	11.7	5.6	100	1903
Gojjam	R-R	3.2	11.5	5.0	5.2	7.7	8.4	11.8	17.8	12.8	7.6	5.4	3.6	100	156804
	U-R	7.1	8.2	4.9	3.1	6.2	3.6	22.5	18.6	13.6	3.6	3.5	5.1	100	6206
	R-U	10.6	5.6	5.3	7.7	11.7	11.8	9.4	6.0	11.9	11.1	4.8	4.2	100	12512
Gondar	R-R	3.2	6.9	5.4	4.4	7.5	13.6	11.0	13.4	14.8	10.4	6.0	3.5	100	57669
	U-R	4.9	5.1	2.6	4.8	4.2	11.9	12.7	4.1	21.0	18.2	3.1	7.4	100	6032
	R-U	7.7	6.7	3.6	1.5	5.0	19.6	15.2	19.2	9.5	6.1	1.2	4.6	100	11026
Hararge	R-R	8.1	11.3	9.4	8.3	12.2	11.8	9.9	7.9	6.2	4.4	5.9	4.7	100	52384
	U-R	12.6	10.1	8.2	11.4	10.4	6.5	8.7	2.1	7.1	7.7	9.4	5.6	100	3265
	R-U	10.0	10.3	7.1	16.7	7.1	7.0	5.4	7.1	7.0	5.1	5.0	12.2	100	5109
Illubabor	R-R	11.1	11.8	11.5	8.1	10.7	9.7	7.4	9.7	4.1	3.2	9.6	3.1	100	19093
	U-R	0.0	10.9	0.0	16.9	5.4	34.9	1.5	7.2	13.2	1.2	8.7	0.0	100	779
	R-U	3.3	10.6	7.1	10.9	24.4	12.7	4.0	11.6	3.0	3.2	2.7	6.4	100	2804

Table 6.15 Cont'd

Region	Form of Migr.	Meskerem	Tikimt	Hidar	Tahsas	Tir	Yekatit	Megabit	Miazia	Ginbot	Sene	Hamle	Nehase	Total %	No.
Keffa	R–R	3.5	4.1	11.3	5.9	8.7	12.3	9.1	14.3	9.4	9.5	8.5	3.4	100	17741
	U–R	0.0	41.5	0.0	11.5	0.0	30.7	0.0	0.0	0.0	11.0	0.0	5.4	100	410
	R–U	2.8	4.8	5.0	4.6	15.3	16.2	3.6	6.2	6.2	29.1	1.8	4.5	100	2136
Shewa	R–R	5.8	8.9	7.9	7.7	8.3	9.6	11.4	10.9	8.5	9.0	5.9	6.2	100	138871
	U–R	8.6	10.9	8.2	5.7	7.4	4.4	7.6	6.5	7.4	12.1	9.3	11.8	100	23544
	R–U	12.6	9.5	7.2	9.0	9.1	9.2	7.8	7.4	7.1	8.1	6.0	7.0	100	43376
Sidamo	R–R	6.1	10.6	11.2	11.9	11.2	12.0	7.9	6.3	6.3	7.0	4.4	5.1	100	110981
	U–R	5.5	21.6	20.3	11.5	9.0	8.7	8.7	0.5	2.3	3.9	2.8	5.3	100	3195
	R–U	10.1	5.5	5.0	11.4	8.2	17.7	7.7	4.8	2.9	5.4	9.0	12.3	100	7341
Wellega	R–R	6.9	7.4	6.5	6.8	15.2	7.9	9.3	13.8	13.8	5.4	4.2	2.8	100	63054
	U–R	4.0	14.2	7.5	0.0	10.1	8.5	21.8	2.0	14.3	17.7	0.0	0.0	100	1392
	R–U	10.1	11.7	1.4	13.0	19.3	5.9	3.6	3.1	10.5	6.6	10.3	4.5	100	5954
Wollo	R–R	3.7	8.5	6.9	8.3	9.9	10.8	11.8	11.7	6.8	9.8	6.5	5.1	100	51878
	U–R	2.2	18.9	6.8	4.8	10.1	7.2	11.1	5.5	7.0	18.6	2.3	5.6	100	2863
	R–U	10.2	12.0	13.3	6.4	15.9	5.3	6.0	6.3	3.5	6.7	11.0	3.4	100	5526
Total	R–R	5.1	9.6	7.6	8.9	9.3	10.2	9.9	12.6	9.2	7.3	5.7	4.6	100	779219
	U–R	7.2	11.2	7.7	6.6	7.2	7.3	10.5	6.9	9.4	10.8	6.7	8.6	100	52654
	R–U	11.5	8.5	6.2	8.1	10.1	11.5	8.5	8.2	7.2	7.8	5.8	6.8	100	108523
	ALL	5.9	9.6	7.4	8.7	9.3	10.2	9.8	11.8	9.0	7.5	5.7	5.1	100	940396

R–R =Rural to Rural U–R =Urban to Rural R–U = Rural to Urban

Fig.6.9 Percentage Distribution Of Intra-regional Migrants By Month Of Migration, 12 Regions, Rural Ethiopia, 1986/87



high proportions presented in the Table. For instance, most of the in-migrants to Arssi came from Shewa, (33.7 percent), Bale (21.6 percent) and Hararge (18.2 percent); to Sidamo from Shewa (32.7 percent), Bale (26.8 percent) and Gamo Goffa (19.7 percent); to Wellega from Shewa (30.0 percent), Keffa (15.7 percent) and Illubabor (12.0 percent) ... etc. Another interesting feature worth noting is that migrants from Shewa, Wollo and Eritrea go to all the regions. Moreover, in half of the regions (Arssi, Hararge, Keffa, Sidamo, Wellega and Wollo), the highest proportions of in-migrants originated from Shewa region. On the other hand, a good number of Wollo migrants go to Gojjam, Gondar, Hararge and Wellega.

In conformity with what was stated earlier, here again, the distance - volume relationship showed an inverse relationship for the inter-regional migrants. The number of migrants whose destination was the same region decreased as their region of origin gets far. For instance, those who came into Wellega region from Shewa contributed 30 percent, from Wollo 21.7 percent, from Keffa 15.7 percent, from Illubabor 12 percent. Likewise, those who came into Keffa from Shewa contributed 57.2 percent, from Hararge 15.8 percent and from Wellega 10.1 percent.

Table 6.16 Percentage Distribution Of Inter–regional Migrants By Region Of Origin And Destination;Rural Ethiopia,1986/87

Origin	Destination												
	Arssi	Bale	Gamo Gofa	Gojjam	Gonder	Hararge	Illubabor	Keffa	Shewa	Sidamo	Wellega	Wello	Total
Arssi	–	48.4	0.0	0.0	2.1	7.7	0.0	0.0	18.8	1.3	0.0	1.1	5.7
Bale	21.6	–	29.3	3.1	8.3	1.5	3.9	0.0	7.4	26.8	4.0	4.1	8.3
Eritrea	9.2	3.4	4.3	4.4	1.6	9.1	4.9	3.8	1.7	5.8	7.5	0.7	3.9
Gamo Gofa	0.0	0.5	–	0.0	2.2	0.0	0.0	0.0	0.9	19.7	0.0	0.0	1.4
Gojjam	0.3	0.0	0.9	–	36.7	5.6	2.7	0.0	2.7	0.0	1.7	4.1	3.5
Gonder	0.0	1.0	1.1	50.8	–	1.9	1.1	0.0	2.9	0.0	0.8	9.0	8.5
Hararge	18.2	7.0	4.4	3.8	9.2	–	3.2	15.8	8.4	4.5	4.3	5.6	7.2
Illubabor	0.0	0.0	0.0	1.2	0.0	5.6	–	8.6	1.0	0.9	12.0	8.5	3.7
Keffa	0.7	0.5	0.0	0.8	1.8	0.0	50.2	–	19.6	1.3	15.7	11.9	11.2
Shewa	33.7	26.6	25.2	12.8	19.8	41.6	3.4	57.1	–	32.7	30.0	28.3	21.6
Sidamo	11.1	6.5	27.8	1.5	0.0	3.8	0.2	0.0	9.0	–	1.2	1.5	4.7
Tigray	1.4	0.5	4.4	0.4	0.7	0.0	0.0	0.0	1.1	2.3	1.2	0.0	0.8
Wellega	0.6	1.2	0.0	3.5	0.0	0.0	27.4	10.1	15.7	4.2	–	25.0	11.3
Wello	3.2	4.4	2.7	17.8	17.4	23.2	2.8	4.6	10.8	0.6	21.7	–	8.1
Total %	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
No	4845	1717	1605	5265	2033	1222	3203	1530	8274	2660	4015	10455	46824

CHAPTER VII

Summary and Recommendation

The 1986/87 Experimental Sample Vital Registration System (ESVRS) was carried-out in 12 regions in 670 sampled FAs. All the households in the selected FAs were completely covered by the system.

The objective of ESVRS was to obtain data on annual births, deaths, marriages, divorces and migration thereby study changes in the household and the population during the year.

Two methods of data collection were employed in ESVRS. These were the household change survey and continuous registration of births, deaths, marriages and divorces. The objectives of the household survey were to capture the size of household and the population as a whole at the beginning and changes in the households and the household size at the end of the year. The objectives of the continuous registration were to capture the total annual births, deaths, marriages and divorces by registering them as soon as they occur in the households either by going from house to house every fortnight or by agitating the residents to report the events as soon as they occur i.e. both passive and active methods of registration were employed.

In this volume, findings from both the survey and the registration data have been reported in detail. In this section, a summary of the findings and recommendations for further improvement of the system are discussed.

7.1 Summary of Findings

a) Birth and Birth Rates

During the year under consideration, 1,088,332 births were registered of which 562,768 and 525,564 were males and females, respectively. The sex-ratio was 107.1 males per 100 females.

The reported Crude Birth Rate (CBR) was 35.5 per 1000 average population of the rural sedentary population of the 12 regions

particularly at advanced ages.

The proportion single by age group was at its peak at age group 10-14 years and declines with an advancing age more rapidly for females than males. The age distribution of the proportion currently married indicates the early start of marriage and its rise with age up to the middle ages and tapering off thereafter.

Incidence of divorce also increases with age. Proportion of divorced male is lower than females because of the high incidence of remarriage among older men than women. Similarly, widowhood also increases with age and females have higher proportion widowed than males at older ages. This again may be explained by high mortality and remarriage among men than women at older ages.

d) Marriage and Marriage Rates

Apart from registering birth and death events, the registration activity was also involved in registering marriage and divorce events. In this respect, 289,716 marriages were registered during the year. The crude marriage rate derived from these registered marriage was 9.4 per 1000 average population. The highest crude marriage rate was observed in Wollo (16) while the lowest was in Sidamo (5.6 per 1000).

The general marriage rate (GMR) was 30.8 per 1000 unmarried (single, divorced and widowed) average population aged 10 years and above. The highest GMR was observed in Gojjam (50 per 1000) and lowest in Sidamo (18.5 per 1000). Of the population marrying, 53.6 percent were marrying for the first time and 36.2 percent were remarrying. Among the remarrying, 31.4 percent were divorcees and 4.8 percent were widows. In Gojjam, Gondar, Illubabor and Wollo the majority of marriages were remarriages while in the rest of the regions, the majority of marriages were first marriages.

The age pattern of marriages indicates that the highest proportion of males marry at the age of 20-24 years and females at the age of 15-19 years. The median age at marriage for males was 25.6 years and females 19.2 years. Remarriage of widows occurs at higher ages while those of divorces take place at early ages.

Measures of seasonality of marriage indicate the existence of a marked seasonal variation in the incidence of marriage. In the months of Yekatit and Miazia marriages are more frequent than other months.

According to the nuptiality table, single males and females aged 10 years and above have to wait an average of 12.2 and 8.6 years before their first marriage. Moreover, less than 0.2 percent of the 100,000 cohorts of single persons remain single by the end of their fiftieth birth day while 0.4 percent of the females do so. This indicates the universality of marriage and absence of permanent celibacy in the rural area of Ethiopia. The probability that a woman aged between 10 and 24 years will marry sometimes during her life time before age 50 was above 90 while at the same probability this age extends up to 10-32 years for males. The probability that a woman aged 48 years will marry sometimes during her life time before age 50 was less than 10 while this probability was around 40 for males. This indicates that there is more chance for older men to get married than older women.

e) Divorce and Divorce Rates

Though unlike mortality and fertility which affected the size of the population, divorce merely affects the population composition, the rate of divorce can indicate the degree of marital instability that can affect marital fertility. In the sample registration areas, 70,149 divorces were registered during the year in question.

The crude divorce rate was 2.3 per 1000 average population while the general divorce rate was 6.1 per 1000 average married population. In Wollo, Gondar and Gojjam the crude divorce rate was higher (5.2, 5.7 and 4.9, respectively) while it was lower in Wellega (0.8).

The age specific divorce rates reveal that divorce rises from age 10-14 years to 25-29 years for males and 20-24 years for females and declines thereafter with advancing age. At younger ages, divorce rates are higher for females than males while at older ages, it is reversed. The median age at divorce was 32 for males and 25 for females.

The majority of divorces occurred to persons who have not married more than once. In general most divorces were concentrated on the first and second order marriages. As the number of marriages increase, the prevalence of divorce decreases.

Reasons for divorces turn out to be spousal age, ethnic and religious differences, poverty, childlessness, mismanagement of household and finance, health problem and inability to get along with each other. The majority of divorces were due to inability to get along with each other.

The pattern of divorce was also influenced by the number of children under 18 years of age who belong to both husband and wife. The more children they have the less was the tendency to divorce.

Seasons can also affect the incidence of divorce. During the rainy month (Hamle) the incidence of divorce is more common and it was less common during the month of Meskerem. This phenomena varies from region to region.

f. Internal Migration

Internal migration data was collected through household change survey. Information on migration included, age, sex, origin, destination, seasonality, reason of migration. Internal migration is classified into two groups; Intra- and Inter-regional migration. Streams of migration included, rural to rural, rural to urban and urban to rural migrations. The results of the information so obtained showed that a greater number of migrants made their moves within regions as compared to movements across regions (87.7 percent and 12.3 percent respectively). The rural to rural migration was very high (80.9 percent) followed by rural to urban (12.7 percent) and the urban to rural migration was reported to be only 6.4 per cent. Of the total migrants 44.7 per cent were males and 55.3 per cent were females.

The overall migration rate revealed that 35 persons per thousand made migratory movements in the year 1986-87, of which 31 persons per thousand made their moves within regions and 4 persons per thousand across regions.

The age distribution of migrants indicated age selectivity of migration. The number of migrants in age groups 10-19 and 20-29 were found to be high while that of the older age groups (40-45 and 50 and above) was relatively low. The age specific sex ratio showed excess of males in the inter-regional migration while the females out numbered their male counterparts in the case of intra regional migration.

Among the main reasons for migration as reported by migrants, the search for economic assistance was very high followed by marriage and job related reasons.

Results of the survey also showed a seasonal pattern. The rainy seasons (Sene, Hamle, Nehase and Meskerem) had relatively low proportion of migrants while the dry seasons (Megabit, Mizia and Ginbot) had relatively high proportion of migrants.

Concerning the streams of migration, it is observed that, in general, migrants move to the immediate neighboring regions. Moreover, the highest proportion of in migrants to half of the regions (Arssi, Hararge, Keffa, Sidamo, Wellega and Wollo) originated from Shewa region with which all the six regions have a common border in all sides.

7.2 Recommendation

The objectives of ESVRS were two fold. The first one was to obtain data on annual births, deaths, marriages and divorces and thereby study changes in the household composition and annual changes in the population as a whole. However, inspite of the fact that the current sample vital registration activity exhibited an improvement over the previous exercise as indicated by the analysis of completeness of birth and death registration, the vital events in general were under-reported. Though completeness of marriage and divorce registration was not analyzed, it can be presumed that these were not also free from under-reporting.

Under-reporting was mainly due to the lack of well trained registrar, lack of cooperation in reporting the vital events by the rural public and the failure to strict supervision and follow up. Lack of strict supervision and follow up can be attributed due to the fact that ESVRS was a part of RIHSP. This is mainly due to the fact that RIHSP covers a number of socio-economic surveys and the enumerators and supervisors have got too much work to do and as a result of this relatively less attention was given to the

registration activity.

The experience gained during the Experimental Sample Vital Registration System quite clearly indicate the need for intensive supervision of the operation at various stages of the scheme. Ideally, the base line, the household change survey and the registration activity has to be carried out independently by different individuals. This is in order to avoid collusion between the registrar and the survey enumerator and maintain the independence of the two data collection methods. Collusion takes place when the enumerator and the registrar get together and agree to report the same events. At this juncture, it should be borne in mind that the SVRS is based on the concept that if two independent data collection operations are set up to cover the same sample areas, then one of them should pick up some of the events missed by the other.

The other essential feature of SVRS is matching operation; the events reported by one operation are matched against those reported by the other. This enables the application of Chandra Sekar C. and Deming formula which is used to estimate missing and total number of vital events that occurred during the reference year. Therefore, matching of the registered and enumerated vital events should be performed at regional level by a specially trained staff. Reverification should also be done by a third party. Since matching is a difficult and time consuming operation, the size of the sampling unit has to be smaller, preferably an EA , to ease the problem of matching.

To produce well trained and motivated field staff, the training program has to be uniform and intensive.
The registrar has to visit every household in the EA every month and register the events which occurred during the month and send reports to the head office every month. To get the cooperation of the households in the area in reporting the events, the registrar has to motivate them by explaining the uses of vital registration. One way to do this is to attend Kebele meetings, church gathering,...etc and take the opportunity to enlighten the public.

Regarding to the contents of the household questionnaire and vital registers, the number of items included has to be restricted

to important ones and the content must be similar in both the schedules. This will minimize errors, save time and make, matching easier.

In recent years, the demand for a reliable vital statistics has been increasing for planning, research and policy purposes. Therefore, it is particularly felt necessary to get accurate data on birth, death, marriage and divorce. These can only be obtained through improved methods of data collection. From the experience gained so far and the results achieved thereof, there is no doubt that if all possible improvements, including financial and administrative, are made in addition to what is stated above as a recommendation, then the required level of compeletness of vital registration will be attained through SVRS.

Finally, it should be noted that in order to obtain data on vital events, it is of paramount importance to establish and strengthen the National Vital Registration System in the country.

To establish and strengthen the vital registration activity and thereby obtain accurate data on a continuous basis, necessary measures be taken for successful execution of the registration activity. These include, among other things, the framing of the body of laws. These laws will cover the general principles of a registration system such as:-

- Legality of collecting civil data, and
- Compel or force the concerned population to report their civil status and vital events.

Secondly, a central authority whose power stretches down to the lowest administrative unit, should be established to hold, among other things, the responsibility to:-

a. Formulate the goals and policies for the implementation of the entire system
b. Drafting the necessary legislation
c. Administer the system
d. Define concepts and procedures for the registration activity
e. Train man power
f. Educate the public
g. Utilize the data and deliver data for planning purposes

JOB ID		
1	2	3
2	0	3

CENTRAL STATISTICAL OFFICE
NATIONAL INTGRATED HOUSEHOLD SURVAY PROGRAMM
VITAL STATISTICS REGISTRATION SYSTEM
HOUSEHOLD QUSTIONNAIRE

FORM - 2

PAGE ___ FROM ___ PAGES

SECTION 1. AREA IDENTIFICATION

1 REGION	2 AWRAJA	3 WEREDA	4 FARMERS ASSOCIATION	5 HOUSEHOLD SERIAL NUMBER
4 5	6 7	8 9	10 11 12	13 14 15 16

SECTION 2. PARTICULARS OF BASE LINE POPULATION

SECTION 3. PARTICULARS OF CHANGES IN THE HOUSEHOLD IN THE LAST 12 MONTHS

6 SERIAL NUMBER	7 NAME OF USUAL MEMBER OF HOUSE HOLD	8 ROUND	9 RELATION SHIP TO HEAD OF HOUSE HOLD	10 SEX	11 AGE	12 MARITAL STATUS	13 RELIGION	14 ETHNICITY	15 EDUCATIONAL ATTAINMENT	17 AGE	18 MARITAL STATUS	19 EDUCATIONAL ATTAINMENT	20 CHANGE IN THE HOUSE-HOLD	21 DATE OF CHANGE (DATE / MONTH / YEAR)	22 DESTINATION/ORIGIN OF MOVE AND MIGRATION	23 REASON FOR MOVE AND MIGRATION
17 18		19	20	21	22 23	24	25	26 27	28 29	36 37	38	39 40	41	42 43 / 44 45 / 46 47	48 49 50	51

16 SIZE OF HOUSE HOLD

30 31	32 33	34 35
M	F	T

24 SIZE OF HOUSEHOLD

M	F	T

CENTRAL STATISTICAL OFFICE
NATIONAL INTEGRATED HOUSEHOLD SURVEY PROGRAMM
VITAL STATISTICS REGISTRATION SYSTEM
BIRTH REGISTER

JOB ID		
1	2	3
2	0	3

REGISTER
PAGE ____ FROM ____ PAGES

SECTION 1. AREA IDENTIFICATION.

1 REGION	4	5	2 AWARAJA	6	7	3 WEREDA	8	9	4 FARMERS ASSOCIATION	10	11	12

SECTION 2. PARTICULARS OF NEW BORN BABIES						SECTION 3 - PARTICULARS OF MOTHER OF BABY																		
5	6	7	8	9			10	11	12	13	14	15	16	17									18	
BIRTH SERIAL NUMBER	HOUSEHOLD SERIAL NUMBER	NAME OF BABY	SEX	DATE OF BIRTH			TYPE OF ATTENDANCE AT DELIVERY	NAME OF MOTHER	AGE	MARITAL STATUS	RELIGION	ETHNICITY	EDUCATIONAL ATTAINMENT	NUMBER OF CHILDREN EVER BORN ALIVE									DATE OF REGISTRATION OF BIRTH	
														TOTAL			ALIVE			DEAD				
				DATE	MONTH	YEAR								M	F	T	M	F	T	M	F	T	DATE	MONTH	YEAR
13 14 15	16 17 18 19		20	21 22	23 24	25 26	27		28 29	30	31	32 33	34 35	36 37	38 39	40 41	42 43	44 45	46 47	48 49	50 51	52 53	54 55	56 57	58 59

Appendix C

CENTRAL STATISTICAL OFFICE
NATIONAL INTEGRATED HOUSEHOLD SURVEY PROGRAMM
VITAL STATISTICS REGISTRATION SYSTEM
DEATH REGISTER

JOB ID		
1	2	3
2	0	3

REGISTER — 2
PAGE ____ FROM ____ PAGES

SECTION 1. AREA IDENTIFICATION

1 REGION	2 AWARAJA	3 WEREDA	4 FARMERS ASSOCIATION
4 5	6 7	8 9	10 11 12

SECTION 2. PARTICULARS OF THE DECEASED

5	6		7	8	9	10			11	12	13	14	15			16	17	18		
						AGE AT DEATH							DATE OF DEATH					DATE OF REGESTRATION OF DEATH		
DEATH SERIAL NUMBER	HOUSE HOLD SERIAL NUMBER		NAME OF THE DECEASED	RELATION SHIP TO HEAD OF HOUSE HOLD	SEX	DAYS	MONTHS	COMPLETED YEARS	MARITAL STATUS	RELIGION	ETHNICITY	EDUCATIONAL ATTAINMENT	DATE	MONTH	YEAR	CAUSE OF DEATH	TYPE OF ATTENDANCE AT DEATH	DATE	MONTH	YEAR
13	14	15 16 17 18		19	20	21 22	23 24	25 26	27	28	29 30	31 32	33 34	35 36	37 38	39 40 41		42 43	44 45	46 47 48

Appendix D

CENTRAL STATISTICAL OFFICE
NATIONAL INTEGRATED HOUSEHOLD SURVEY PROGRAMM.
VITAL STATISTICS REGISTRATION SYSTEM
MARRIAGE REGISTER

JOB I D		
1	2	3
2	0	3

REGISTER — 3

PAGE ____ FROM ____ PAGES

SECTION 1. AREA IDENTIFICATION

1 REGION	2 AWARAJA	3 WEREDA	4 FARMERS ASSOCIATION
4 5	6 7	8 9	10 11 12

SECTION 2. PARTICULARS OF BRIDE AND GROOM

5	6	7	8	9	10	11	12	13	14	15				16				
MARRIAGE SERIAL NUMBER	HOUSE HOLD SERIAL NUMBER	NAME OF BRIDE AND GROOM	SEX	AGE AT MARRIAGE	RELIGION	ETHNICITY	EDUCATIONAL ATTAINMENT	PREVIOUS MARITAL STATUS	ORDER OF MARRIAGE	DATE OF MARRIAGE				DATE OF REGISTRATION OF MARRIAGE				
										DATE	MONTH	YEAR		DATE	MONTH	YEAR		
13 14 15	16 17 18 19			20 21 22	23	24 25	26 27		28 29 30	31 32	33 34	35 36		37 38	39 40	41 42		

1	2	3
2	0	3

CENTRAL STATISTICAL OFFICE

NATIONAL INTEGRATED HOUSEHOLD SURVEY PROGRAMM

VITAL STATISTICS REGISTRATION SYSTEM

DIVORCE REGISTER

REGISTER – 4

PAGE ____ FROM ____ PAGES

SECTION 1. AREA IDENTIFICATION

1 REGION	4 5	2 AWARAJA	6 7	3 WEREDA	8 9	4 FARMERS ASSOCIATION	10 11 12

SECTION 2. PARTICULARS OF DIVORCEES

5	6		7	8	9	10	11	12	13	14	15	16			17		
DIVORCE SERIAL NUMBER	HOUSE-HOLD SERIAL NUMBER		NAME OF DIVORCEES	SEX	AGE AT DIVORCE	RELIGION	ETHNICITY	EDUCATIONAL ATTAINMENT	ORDER OF DIVORCE	REASON FOR DIVORCE	CHILDREN UNDER 18 YEARS	DATE OF DIVORCE			DATE OF REGISTRATION OF DIVORCE		
												DATE	MONTH	YEAR	DATE	MONTH	YEAR
13 14 15	16 17	18 19			20 21 22	23	24 25	26 27	28 29		30 31 32	33 34	35 36	37 38	39 40	41 42	43 44

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