

DEMOGRAPHIC SURVEILLANCE SYSTEM - MATLAB

Volume Five

VITAL EVENTS, MIGRATION, AND MARRIAGES-1976

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CHOLERA RESEARCH LABORATORY

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Vital Events, Migration, and Marriages

1976

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PREFACE

The Cholera Research Laboratory (CRL) operates under a bilateral project agreement between the governments of Bangladesh and the United States of America. Research activities of CRL center on the interrelationships between diarrheal disease, nutrition, fertility and their environmental determinants. CRL issues two types of papers: scientific reports and working papers which demonstrate the type of research activity currently in progress at CRL. The views expressed in these papers are those of authors and do not necessarily represent views of Cholera Research Laboratory. They should not be quoted without the permission of the authors.

Abstract

The results of the Demographic Surveillance System (DSS) in Matlab for the calendar year 1976 are presented in three sections: (A) A summary overview of the vital events, migration, marriages and divorces recorded in 1976 with a descriptive analysis of the results; (B) A study of marriage and divorce patterns in 1975 - 1976; (C) Selected cross-tabulations of the recorded events.

The present volume is a part of a series describing and analysing the annual results of the DSS-Matlab.

Introduction

The results presented in this volume were obtained from the regular registration of births, deaths, marriages, divorces and migration in the calendar year 1976. A detailed description of the Demographic Surveillance System (DSS), its operation and definitions is presented in Volume One of this series. The DSS consists of two parts: longitudinal registration of demographic events, and cross-sectional censuses. The latest census was taken between 22 April and 4 July, 1974, and the results of this census are presented in Volume Two of this series.

The contents of the present Volume is subdivided into three sections: (A) a summary overview and analysis of the main results of the DSS for 1976; (B) Analysis of the marriage and divorce patterns in 1975 - 1976; (C) the basic tabulations of the results of the DSS under four headings: B-1 Deaths; B-2 Pregnancy Terminations and Births; B-3 Migration; B-4 Marriages and Divorces.

The number and scope of the tabulations in part (C) does not utilize all the wealth of information generated by the DSS. Its main objective is to present selected cross-tabulations which may be utilized by health and population researchers for general information. The detailed description of the DSS in Volumes One and Two of this series provides leads for special tabulations of the data as they may be required for specialized inquiries and research projects.

The quality of the results of any continuing surveillance system depends on the organization of the field work, on the fieldworkers and their supervisors. There are about 350 of them in the DSS. We wish to acknowledge their untiring effort and dedicated work, both in the Matlab H.Q. of the field operations and in the 228 villages. The staff of the Statistical Branch of the CRL in Dacca verified, coded, punched and processed the data and its contribution to the results of the DSS is gratefully recognized and appreciated.

A. Analysis of the Demographic Surveillance in the Matlab area, 1976.

1. Basic Demographic Characteristics in 1976

The DSS was maintained in 228 villages on a continuous basis. The population of those villages totalled 263,507 as enumerated at the 1974 census. An estimate of the population size as of 1 July, 1976 is presented in Table 1; it is based on the mid-1975 population size and registered births, deaths and migration between 1 July, 1975 and 30 June, 1976, using the balancing equation $P(1976) = P(1975) + B - D + M(\text{in}) - M(\text{out})$

TABLE 1

Estimate of the mid-1976 population, DSS Matlab

Data and period	Males	Females	Total
Population estimate 1 July 1975	132,251	126,943	259,194
Births: July - December 1975	2,023	1,914	3,937
January - June 1976	1,968	1,811	3,779
Deaths: July - December 1975	1,295	1,212	2,507
January - June 1976	1,003	1,001	2,004
Migration in: July - December 1975	1,527	1,847	3,374
January - June 1976	1,854	2,416	4,270
Migration out: July - December 1975	2,231	2,442	4,673
January - June 1976	2,497	2,492	4,989
Population 1 July 1976	132,597	127,784	260,381

Between 1 July, 1975 and 1 July, 1976 the population of the DSS increased merely by 1,187 persons, or less than 0.5 percent of the former one. In the estimated population 132,597 were males and 127,783 females, yielding a sex ratio of 103.8 males per 100 females.

For the calculation of demographic measures specific for sex and age an estimate of the age distribution of the population was needed. A technique based on the balancing equation was developed for this purpose and is described in detail in Annex 1. The sex-age distribution of the population as of 1 July, 1976 is presented in Table 2. It does not show any significant deviation from the age structure found in the 1974 census (or in the estimate of the 1975 sex-age structure) with only one notable exception: the number of children under age one year. As in the previous year, this number is considerably less than in 1974 as well as in 1975. Relatively small number of births during the latter part of 1975 and earlier part of 1976, as may be seen in Table 1, accounts for this deficit. In addition, infant mortality during the 1975/6 period reduced further the number of survivors from birth to age zero. As in the previous years, there was an excess of males over females in all age groups with the only exception at the ages 25-39 years.

A general review of the demographic events registered in 1975 is presented in Table 3. There were 11,265 live births registered during the year yielding a birth rate of 43.3 per 1,000 population. Against this figure, the number of death was 3,856, i.e. 14.8 per 1,000 population, thus generating a natural increase by 7,409 or 28.5 per 1,000 population. This natural increase was only

TABLE 2

Estimated sex and age distribution of the population of the DSS Matlab
as of 1 July, 1976*

Age	Males	Females	Total	Age	Males	Females	Total
0	3,553	3,284	6,837	25-29	6,844	8,392	15,236
1	3,524	3,326	6,850	30-34	6,302	8,067	14,369
2	4,917	4,699	9,616	35-39	6,984	7,179	14,163
3	4,323	4,097	8,420	40-44	6,357	5,853	12,210
4	4,146	3,825	7,971	45-49	5,365	4,762	10,127
0-4	20,463	19,231	39,694	50-54	4,420	3,834	8,254
5-9	18,738	17,650	36,388	55-59	3,590	3,214	6,804
10-14	20,499	19,833	40,332	60-64	2,529	2,325	4,854
15-19	16,902	15,255	32,157	65+	4,862	3,699	8,561
20-24	8,742	8,490	17,232	Total	132,597	127,784	260,381

* For the method of estimation see Annex 1.

TABLE 3 Vital events and migration registered in DSS Matlab in 1976

Events	Number	Rate per 1,000 population
Mid-year population	260,381	-
Live births	11,265	43.3
Deaths	3,856	14.8
out of it infant deaths	1,160	103.0*
Migration - in	8,489	32.6
- out	9,028	34.7
Marriages	4,734	18.2
Divorces	634	13.4**
Natural increase	7,409	28.5
Loss due to migration	539	2.1
Total population increase	6,870	26.4

* per 1,000 live births;

** per 100 marriages.

marginally reduced by the excess of out-migration over in-migration. The number of persons leaving DSS, namely 9,028, was only slightly higher than the number of in-migrants, that stood at 8,489, leaving a loss of 539 or 2.1 per 1,000 population. Thus, the natural increase was reduced by migration to 26.4 per 1,000 population or about 2.6 percent a year.

The frequency of marriages was high at 18.2 per 1,000 population with divorces representing a ratio of 13.4 per 100 marriages.

2. Mortality

Out of the 3,856 deaths registered in 1975 about 30 percent occurred during infancy and another 25 percent during early childhood, at ages 1-4 years. The conventional infant mortality rate in Table 3, namely 103 deaths per 1,000 live births, is a biased index because of the considerable change in the number of births between 1975 (7,622 births) and 1976 (11,265 births). Infant deaths, recorded in 1976, originated from both birth cohorts, but are, in the conventional IMR related to the larger birth cohort of 1976 only. Thus the IMR of 1976 is lower than the true risk of infant death. Relating such deaths to the respective birth cohorts from which they originated (for the methodology see Annex II in Volume Four of this series) yielded an IMR of 113.6 per 1000 related births for males and 110.3 per 1,000 related female births.

The age-specific death rates by sex recorded in 1976 are presented in Table 4. They show a considerable decline of mortality in comparison to 1975. In most instances the death rates were higher for females than for males, the only exceptions being infancy and age groups 30-34 and 40-59 years. It should be, however, recognized that in many age groups, particularly in the age range 25 years and over, the population at risk is often relatively small, between four and eight thousand. This in conjunction with low death rates calls for caution in the interpretation of the sex differences in mortality rates.

To obtain a comprehensive index of the mortality levels, an abridged Life Table was constructed following the methodology described earlier (Volume Three of this series). The level of mortality recorded in 1976 would yield, if continued, a life expectation at birth for males of 52.8 years and for females of 51.4 years. Those values, however, were not the highest ones. The longevity reached its peak for males aged four years with a life expectation of additional 61 years, and for females at the age five years with an expectation of additional 60.9 years. (Table 5.) This 'paradox' of the Life Table, namely that the peak of longevity is at some higher age rather than at birth, is due to the high infant and child mortality.

Seasonal variations in mortality will be discussed separately for persons aged five years and more, children 1-4 years and infants. (Tables 6 and 7.)

The winter months, December, January and February, had mortality levels exceeding the annual average by 16 to 36 percent if older children and adults

TABLE 4 Age-specific death rates and male/female ratio of death rates, 1976

Age at death	Deaths per 1,000 persons of given sex and age			Age at death	Deaths per 1,000 persons of given sex and age		
	Males	Females	Ratio* M/F		Males	Females	Ratio* M/F
0	113.6	110.3	1.03	25-29	2.1	2.6	.78
1	40.9	55.9	.73	30-34	3.6	2.6	1.40
2	29.5	36.6	.81	35-39	3.7	4.0	.92
3	20.4	28.1	.73	40-44	7.9	3.6	2.19
4	13.0	17.5	.74	45-49	8.4	7.1	1.18
5-9	4.6	6.0	.76	50-54	18.8	12.0	1.57
10-14	1.1	1.5	.77	55-59	19.8	17.4	1.14
15-19	1.0	2.5	.41	60-64	40.7	42.2	.97
20-24	2.2	3.1	.71	65+	74.0	75.5	.98

* The ratios shown in the Table were calculated from age-specific rates rounded to three decimal points.

TABLE 5 Abridged Life Table based on mortality rates of 1976

Age	Males			Females			Difference between male & female o_{e_x}
	$1000 n q_x$	l_x	o_{e_x}	$1000 n q_x$	l_x	o_{e_x}	
0	113.62	100,000	52.79	110.32	100,000	51.37	1.42
1	40.86	88,638	58.52	55.92	88,968	56.71	1.81
2	29.49	85,089	59.94	36.60	84,128	58.94	1.00
3	20.36	82,616	60.72	28.07	81,104	60.12	0.60
4	13.02	80,951	60.96	17.52	78,859	60.82	0.14
5	4.59	79,903	60.75	6.01	77,490	60.89	-0.14
10	1.12	78,090	57.10	1.46	75,197	57.67	-0.57
15	1.01	77,653	52.41	2.49	74,649	53.07	-0.66
20	2.17	77,264	47.66	3.06	73,725	48.70	-1.04
25	2.05	76,429	43.15	2.62	72,605	44.42	-1.27
30	3.65	75,651	38.57	2.60	71,660	39.97	-1.40
35	3.72	74,283	34.24	4.04	70,733	35.46	-1.22
40	7.87	72,913	29.83	3.59	69,319	31.13	-1.30
45	8.39	70,101	25.93	7.14	68,086	26.65	-0.72
50	18.78	67,221	21.93	12.00	65,698	22.53	-0.60
55	19.78	61,193	18.85	17.42	61,872	18.77	0.08
60	40.73	55,427	15.55	42.15	56,706	15.25	0.30
65	74.04	45,183	13.51	75.45	45,894	13.25	0.26

TABLE 6 Seasonal variation in the number of deaths by month, 1976

Age at death (years)	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Ratio of 100 observed/expected deaths												
5 and more	136	121	104	95	88	71	76	102	93	98	100	116
1-4	108	138	202	163	106	85	88	73	82	69	54	34

TABLE 7 Seasonal variation of neonatal, post-neonatal and infant mortality, 1976

Month	Mortality rate per 1,000 related births		Mortality rate of the month as ratio of annual average	
	Neonatal	Post-neonatal	Neonatal	Post-neonatal
Jan	82.4	62.5	122	117
Feb	51.6	57.3	76	107
Mar	54.1	73.3	80	137
Apr	64.6	93.8	96	175
May	56.0	55.3	83	103
Jun	75.5	52.6	112	98
Jul	86.6	39.7	128	74
Aug	77.6	26.0	115	48
Sep	75.8	31.1	112	58
Oct	65.1	28.5	96	53
Nov	52.3	54.2	77	101
Dec	67.3	73.9	100	138
Annual average	67.55	53.52	100	100

are considered. Among younger children, aged 1-4 years, increased levels of mortality extended from February through April, with January and May being at about the annual average level.

Seasonality of infant deaths, neonatal as well as post-neonatal, reflects not only the variation in the incidence of diseases in accordance with the climatic changes, but also the variation in the frequency of pregnancy terminations by live births. In Table 7 the neonatal and post-neonatal mortality

rates were obtained by relating the deaths in any given month to the birth cohort from which they originated. The methodology of this linkage is described in the Annex of Volume Three of this series.

Neonatal mortality was, in 1976, considerably higher than post-neonatal death rate, namely 67.6 in contrast to 53.5 deaths per 1,000 related births respectively. The months of high neonatal mortality appeared to be January followed by the four humid and wet months of the monsoon period - June through September. In contrast, the peak of post-neonatal mortality appeared during the cool season December-January, followed by the second elevation of the rates above annual average during the hot months of March-April.

Death causation is not adequately described in the DSS; out of 3,855 deaths 36 percent (1,402 deaths) were attributed to fever, old age, other (unspecified) causes or unknown cause. Tetanus was one of the leading causes of infant deaths (29 percent of all deaths of male and 31 percent of female infants). In 1976, measles epidemics took a heavy toll of life of young children: 34 percent of deaths among boys aged 1-4 years and 28 percent of deaths among girls of the same age were attributed to measles. Next in frequency was dysentery, both chronic and acute (19 and 22 percent of male and female deaths at ages 1-4 years respectively). Drowning was responsible for 8 percent of deaths among young boys.

In the adult population causes of deaths are not adequately described to justify a more detailed analysis. It may be noted, however, that among the more frequently mentioned, dysentery (acute and chronic) and respiratory diseases (including T.B.) have relatively high frequency.

3. Fertility

In 1976, there were 11,265 live births registered in the DSS as the outcome of 12,684 pregnancies recorded. The ratio of pregnancies per 1,000 women aged 10-49 years was 163.0. Assuming that the proportion of married women among those aged 10-49 was the same in 1976 as recorded in 1974 census, namely 0.607, this would yield a ratio of 268.5 pregnancies per 1,000 currently married women in childbearing age. Out of the recorded pregnancies 1,045 (i.e. 8.2 percent) resulted in miscarriage and 468 (3.7 percent) in stillbirth. Miscarriages are certainly under-reported in the DSS and stillbirths are likely to be so as well. Among the pregnancies resulting in live birth, 103 were multiple confinements (101 twins and 2 triplets). In 11 of the twin-births one child was stillborn; all triplets were live born.

The age-specific fertility rates for 1976 are presented in Table 8. The peak of fertility was reached at the age 20-24 years (351 births per 1,000 women) closely followed by the age group 25-29 years (290 births per 1,000 women). As in all high fertility countries, the birth rates are high over a broad range of ages from 20 to about 35 years declining thereafter as a result of reduced fecundity and increasing secondary sterility of women.

TABLE 8 Age-specific fertility rates, 1976

Age group	Number of live births	Number of women (estimated 1.7.1976)	Age-specific fertility rate per 1,000 women	Proportion married (1974 census)	Marital fertility rate per 1000 married women
10-14	94	19,833	4.7	.0341	139
15-19	2,423	15,255	158.8	.5737	277
20-24	2,980	8,490	351.0	.9286	378
25-29	2,430	8,392	289.6	.9603	302
30-34	2,148	8,067	266.3	.9408	283
35-39	914	7,179	127.3	.8889	143
40-44	242	5,853	41.3	.8208	50
45-49	38*	4,762	8.0	.7117	11
<hr/>					
Total 10-49	11,269	77,831		.6066	
Total fertility rate			6,235		7,915
General fertility rate			144.8		238.7
Gross reproduction rate**			3,047		
Net reproduction rate			2,198		
Intrinsic rate of growth (a year)			2.87 percent		
Average age of fertility schedule			27.48 years		

* all births to women aged 45 and over;

** sex ratio at birth in 1976 104.6 boys per 100 girls.

The estimates of marital fertility rates presented in column six of Table 8 were based on the assumption that proportions married at each age remained, in 1976, the same as in 1974 census.

The level and pattern of fertility in 1976 in the DSS area would generate, if continued, on the average 6.2 children ever born per woman and 7.9 children ever born per married woman in her reproductive life time. This would, eventually, lead to a net reproduction rate of 2.2 female children per woman surviving to become mothers of the next generation, separated from the present one by a time gap of 27.5 years. The intrinsic rate of growth of nearly 2.9 percent a year would double the population size in 24 years.

Table 9 shows the seasonal variation in the number of pregnancies carried to term, that is of stillbirths and live births, by the month of the pregnancy termination. The data indicate a heavy concentration of pregnancy terminations in the last five months of 1976, with a peak in November. This corresponds with an increase of conceptions in the five months starting from November 1975 through March 1976 with a marked peak in February 1976.

TABLE 9 Seasonal variation of the terminations of pregnancies carried to term, 1976

Month:	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Seasonal index*	65	65	68	56	71	82	95	107	141	145	162	145

* Calculated as a ratio of the observed and expected numbers of events in a given month, multiplied by 100. Expected events are 1/366 of the annual total multiplied by the number of days in the given month.

The mothers who delivered a child in 1976 had experienced, on the average, 3.3 pregnancies, the present birth excluded. This average number of previous pregnancies increased continuously from 0.1 for mother aged less than 15 years to 8.0 among the mothers aged 40 years and over. (Table 10.)

Due to the high infant and child mortality, as well as to late foetal losses (early foetal losses are not counted in the determination of pregnancy order) the average number of living children the mother had at the time of the termination of the current pregnancy was considerably smaller. For all mothers, the average was 2.36 living children, and increased from 0.07 among mothers less than 15 years old to 5.8 children among those aged 40 years and over. (Present birth is excluded from the parity calculation). Among the mothers in the prime ages of childbearing, that is aged 25-29 years, out of the 3.8 pregnancies that had experienced (prior to the present birth) 2.8 children were still surviving, or 72 percent.

4. Migration

After the heavy out-migration in 1975, the loss of population by migration in 1976 was considerably smaller, amounting to 527 persons only. Moreover, the net loss was confined to males (625 as a result of 3,758 migrating into and 4,383 out of the DSS). The number of women in the DSS gained by female migration 98 persons (as a result of 4,731 entering the DSS and 4,633 leaving).

TABLE 10 Live births* in 1976 by mother's parity (a) number of previous pregnancies (live births and stillbirths); and (b) number of living children

Age of mother	Total mothers	Number of previous pregnancies (present birth excluded)											Average number of pregnancies	
		0	1	2	3	4	5	6	7	8	9	10+		
under 15	59	51	8											0.14
15-19	2,376	1394	782	165	28	6	1							0.52
20-24	2,983	304	929	1025	520	152	40	3	1					1.82
25-29	2,398	17	92	332	631	623	399	194	75	27	4	4		3.80
30-34	2,155	5	18	46	167	351	488	411	326	197	80	66		5.66
35-39	916	1	4	10	31	50	88	131	162	179	125	135		7.26
40+	284	1	1	1	7	8	17	26	49	42	55	77		8.03
Total	11,171	1773	1834	1579	1384	1190	1033	771	615	446	264	282		3.30
Per-cent	100.0	15.9	16.4	14.1	12.4	10.6	9.3	6.9	5.5	4.0	2.4	2.5		

Age of mother	Total mothers	Number of living children (present birth excluded)									Average number of living children	
		0	1	2	3	4	5	6	7	8+		
under 15	59	55	4									0.07
15-19	2,376	1736	580	57	2	1						0.30
20-24	2,983	574	1251	866	258	27	7					1.31
25-29	2,398	56	268	648	834	441	133	16	2			2.75
30-34	2,155	11	66	212	467	574	486	233	82	24		4.08
35-39	916	2	8	47	108	156	197	204	115	79		5.17
40+	284	1	4	9	18	43	58	62	38	51		5.76
Total	11,171	2435	2181	1839	1687	1242	881	515	237	154		2.36
Per-cent	100.0	21.8	19.5	16.5	15.1	11.1	7.9	4.6	2.1	1.4		

* Confinements that resulted in live births; multiple births are counted as one confinement.

The seasonal pattern of the movements is presented in Table 11, by sex of the migrant and direction of the movement. In-migration of both males and females was concentrated in the months of May and June, with secondary peaks, for males in January and November, for females in December. The concentration of movement out of the DSS was particularly strong in May, for both males and females. The other months of higher than average out-migration were, again for both sexes, January, February and June. Women, in addition to this, were leaving in larger numbers than expected in December.

TABLE 11 Seasonal variation of migration of males and females, 1976*

Month		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Males	In	124	78	64	44	172	111	85	97	99	107	110	106
	Out	131	111	79	43	198	123	94	90	98	72	58	100
Females	In	106	109	86	52	152	111	99	95	77	92	100	121
	Out	112	123	105	46	141	119	104	107	88	64	59	124

* For the method of calculation of the seasonal index, see Table 9 (footnote).

In-migration of males reached its highest annual value at the age 25-29 years (61 in-migrants per 1,000 residents) while out-migration peaked at the age 20-24 years (78 out-migrants per 1,000 residents) with the values in the two adjacent age groups only slightly lower than the maximum. (Table 12.) The peak of female migration, both in- and out-migration, was located at the ages 15-19 years and rose to a higher level than the maximum rates observed for males: 114 women aged 15-19 moved in and 109 moved out of DSS (per 1,000 residents of that age) during 1976. Female migration rates remained high also at the ages 20-24 years; at most other ages, female movement was less frequent than the movement of males.

Migration patterns by age as well as seasonality of the movements depend on the causes of migration. To describe in broad outline the most frequent causes of movement we combined the motivations into four broad categories (Table 13): (1) dependent movement, such as of wife and children accompanying husband or to join the other spouse; the other movements that may be considered as independent of other persons' decision were subdivided by cause into (2) associated with work and/or living conditions; (3) marriage and marital breakdown; (4) return migration.

For males, about one out of three movements out of DSS area and two out of five movements into the area were associated with other person's move or decision. For females, the dependent movements represented almost half of all migration. The frequency as well as the causes of the independent movements differed between males and females even more: males moved most frequently for

TABLE 12 Sex and age-specific migration rates, 1976

Age	Migrants per 1,000 of mid-year population of given sex and age			
	Males		Females	
	In	Out	In	Out
0-4	28	26	25	28
5-9	27	24	27	21
10-14	21	28	27	32
15-19	26	52	114	109
20-24	41	78	68	72
25-29	61	60	37	33
30-34	48	47	23	21
35-39	34	27	14	13
40-44	27	21	12	10
45-49	16	13	9	11
50-54	18	15	15	11
55-59	13	8	11	14
60-64	11	14	16	16
65+	12	13	20	13
Total	28.3	33.1	37.0	36.3
Number	3,758	4,383	4,731	4,633

reasons associated with work and living conditions (57 and 89 percent of independent movements in and out respectively) whereas females most often migrated because of marriage or marriage breakdown (63 and 67 percent of independent movements in and out respectively). Return migration into the DSS area formed about one-third of male in-migration and 10 percent of female in-migration.

TABLE 13 Migration by sex, direction, and major categories of motivation, 1976

Motivation	Males				Females			
	Migration In		Migration Out		Migration In		Migration Out	
	Number	%	Number	%	Number	%	Number	%
All migrants	3,758	100.0	4,383	100.0	4,731	100.0	4,633	100.0
(1) Dependent movement:								
dependants	1,375		1,218		2,054		1,895	
to join spouse	2		7		105		290	
parents	44		41		46		54	
relatives	37		27		51		42	
adoption	18		8		13		23	
All dependent movements	1,476	39.3	1,301	29.7	2,269	48.0	2,304	49.7
Independent movements	2,282	100.0	3,082	100.0	2,462	100.0	2,329	100.0
(2) Associated with work & living conditions								
service	103		971		12		32	
work	64		513		17		118	
business	14		128		-		1	
better living	253		142		103		67	
for livelihood	684		732		433		410	
study	189		264		22		47	
Total associated with work and living conditions	1,307	57.3	2,750	89.2	587	23.8	675	29.0
(3) Associated with marriage								
marriage	31		10		1,286		1,357	
divorce	-		2		140		133	
separation	2		6		128		76	
Total associated with marriage & breakdown	33	1.4	18	0.6	1,554	63.1	1,566	67.2
(4) Return migration								
return after study	11		4		3		1	
after work	20		2		7		3	
after service	128		11		2		-	
return home (unspec.)	512		76		244		35	
regular member of family	139		10		8		-	
Total returning	810	35.5	103	3.3	264	10.7	39	1.7
(5) Other causes	132	5.8	211	6.9	57	2.3	49	2.1

5. Marriage and Divorce

During 1976 there were 4,734 marriages recorded in the DSS. Marriages have a very marked seasonal incidence (Table 14); in 1976, the recorded monthly number of marriages exceeded the expected one by over 40 percent in March and December. Higher than expected frequency of marriages was also observed in February, and June-August periods. In relative terms, there were 65 marriages per 1,000 males aged 15 years and more and 52 marriages per 1,000 females aged 10 years and more.

Out of 100 grooms, 72.9 were single, 4.2 were married, and 4.2 and 18.7 widowed and divorced respectively. Among the brides, 82.9 percent were never married, 1.7 and 15.4 percent widows and divorcees respectively. The average age at marriage of grooms was 24.4 years if never married, but rose to 29.5

TABLE 14 Seasonality of marriages, 1976

Month	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Seasonal index*	77	137	140	44	102	121	122	115	60	83	51	144

* For method of calculation see Table 9, footnote.

for divorced, 37.2 for married and 39.1 years for widowed. (Table 15.) Brides were, on the average, 16.7 years old if single, 20.3 years of age if divorced and 25.3 if widowed. The limited range of ages within which women get married

TABLE 15 Average and median age at marriage, 1976

Marital status	Grooms			Brides		
	Average	(S.D.)	Median	Average	(S.D.)	Median
Single	24.4	(3.86)	24.7	16.7	(2.02)	16.5
Married	37.2	(11.06)	35.3	-	-	-
Widowed	39.1	(12.02)	37.1	25.3	(7.29)	23.6
Divorced	29.5	(7.69)	28.2	20.3	(4.50)	19.2

in contrast to the wide range of marriage ages of males necessarily leads to a great difference between the ages of partners at marriage. The difference increased considerably with the age of the groom: younger grooms, aged under 25 years, married brides on the average about 6 years younger; grooms older than 40 years, on the other hand, married brides more than 20 years younger than themselves. (Table 16.)

TABLE 16 Average difference (years) between the groom's and bride's age at marriage

Groom's marital status	Groom's age at marriage								All grooms
	under 20	20-24	25-29	30-34	35-39	40-44	45-49	50+	
	Bride younger (on average) by years								
Single	3.0	6.2	9.8	13.3	17.6	25.5	31.5	-	7.9
Married	2.0	5.4	8.9	12.7	19.0	19.0	27.0	30.1	16.6
Divorced or Widowed	2.7	5.9	9.8	13.3	17.4	21.2	25.3	33.3	12.8

Divorce was frequent in 1976; the ratio between divorces and marriages recorded in that year reached 13.4 per 100 marriages. Divorcing husbands and wives were relatively young: the average of husband was 30.3 years and of wife 19.8 years. However, half of the husbands and of the wives were 28.2 or less and 18.6 or less years of age respectively at the time of divorcing.

The average duration of marriage at the time of divorcing was 33 months, but half of all divorces took place after 19.4 months of marriage. The marriage duration was also dependent on the age of the husband (Table 17). Younger husbands divorced after shorter marriage duration than older husbands: half of the husbands divorcing while less than 25 years of age did so after 16.6 months of marriage. In contrast, half of those divorcing at the age 35 years or older did so after 32 months of marriage.

TABLE 17 Average duration of marriage of the divorces recorded in 1976

Husband's age at the time of divorce	Number	Duration of marriage (months)		
		Average	(S.D.)	Median
under 25	187	23.7	(22.5)	16.6
25-29	205	26.4	(25.3)	17.1
30-34	124	44.5	(38.5)	36.7
35 and over	118	47.7	(44.5)	32.0
All husbands	634	33.1	(33.3)	19.4

B. Marriage and divorce in the DSS, 1975-1976.

The registration of marriages and divorces in the DSS constitutes a unique source of information on this specific demographic topic in Bangladesh and, for that matter, in most countries lacking a reliable system of registration. The data collected in the DSS are hardly representative of all Bangladesh or even of all rural areas of the country. But they certainly afford an insight into the strategy of the starting phase of the family life cycle of which the childbearing and childrearing phases are natural sequels.

The only data available on marriage and marital status of the population were, so far, based on census returns and as such, by their specific character, could provide only a momentous picture of the structure of the population in this respect at a given point in time. This limitation constraints the extent of information that can be, directly or indirectly, derived about the formation and dissolution of families. The DSS, by recording marriages and divorces continuously, widened the area opened to demographic research and extended the scope of investigation by adding a few questions as to the circumstances and social characteristics of the partners of either marriage or divorce. This inquiry, however, was limited to 1975 only.

The registration of marriages and divorces was introduced in 1975 which was a period of a severe economic crisis following damage to two rice crops with rapid increase of prices in general and of rice in particular. The demographic events of that year reflected the aftermath of the crisis and of the human suffering and social disorganization which it inflicted.^{1/} The following year, in a sense, represented a return to more normal conditions with some discernable traces of compensatory increases of the incidence of specific demographic events, such as births and marriages, presumably deferred during the preceding year.

A general picture of the marital status of the population under demographic surveillance may be obtained from the 1974 census taken in the DSS area. Census data provide not only the information on the momentous situation but, to some extent, permit conjecture as to how given structural characteristics were accomplished.

The composition of the DSS population by marital status^{2/} in Table 1 indicates that 46.9 percent of males in contrast to 28.3 percent of females aged 10 years and over were single. Obviously, girls married at considerably younger ages than males; among those aged 15-19 years 60.6 percent were already married in contrast to 3.6 percent married males. Almost all males have been married at least once when they reached their late thirties but the same was true for females about ten year younger.

^{1/} For details see Volume Four (1975) of this series, section B.

^{2/} The marital status is recorded as reported by the head of the family or the person interviewed at the census.

TABLE 1

Population of the DSS in 1974 by sex, age and marital status

Age group	Males					Females				
	Single	Married	Divorced	Widowed	Total	Single	Married	Divorced	Widowed	Total
0-4	23836				23836	22758	20	6	14	22798
5-9	18541				18541	17456	7	1	2	17466
10-14	21012	6	2		21020	19503	692	73	2	20270
15-19	14371	514	19	2	14906	5288	7707	395	43	13433
20-24	6035	3045	82	7	9169	238	8220	289	105	8852
25-29	1402	4574	59	14	6049	25	7464	124	160	7773
30-34	259	6604	73	25	6961	9	8215	91	417	8732
35-39	28	6497	40	35	6600	12	5680	56	642	6390
40-44	29	6481	51	38	6599	4	4856	58	998	5916
45-49	22	4905	36	86	5049	3	3016	41	1178	4238
50-54	13	4443	33	87	4576	9	2375	51	1560	3995
55-59	3	3109	25	114	3251	3	1307	40	1527	2877
60-64	9	2585	15	148	2757	11	809	24	1617	2461
65-69	2	1938	21	179	2140	20	342	14	1488	1864
70 +	7	2436	23	507	2973	11	165	29	1820	2015
Total	85569	47137	479	1242	134427	65350	50875	1282	11573	129080

Marriage is as universal in Bangladesh as it is in other countries on the sub-continent. Marriage dissolution is also frequent, both due to divorce and death of spouse. This is more markedly brought to light from the female distribution by marital status than from the data on males. At all ages beyond 15 years, at the most one percent of males were recorded as divorced. On the other hand, up to 3.3 percent of females were divorced (age group 20-24 years) at the time of the census. Obviously, both males and females remarry after a divorce, but the former more often than the latter. In all, there were 2.7 times more divorced women in the DSS than males.

In a country with moderate but fluctuating levels of mortality, with an early marriage, with a heavier mortality of females than males at most ages but, at the

same time, with a considerable age difference between brides and grooms, widowhood may be expected to be frequent.^{3/} Despite that, however, at the ages 15 and over, only 1.7 percent of males were recorded as widowers while, in the same age range, 17 percent of females were widows. This difference becomes even more striking when we consider the older age groups: at ages 55 years and over there were only 8.5 percent males but 70 percent females recorded as being widowed. It is obvious that a widower will remarry more often but a widow may find it more difficult, particularly if she is advanced in age.

There appears to be a striking difference between the number of married males and females in the DSS area: 47,137 males against 50,875 females. There are two specific reasons for this (apart from the possibility that in some instances marital status may have been misreported^{4/}). In an Islamic country, polygynous marriages are permitted and, although it would appear, from the data to be discussed later on, that polygyny is not widespread in the villages of the DSS, some husbands have certainly more than one wife. Secondly, out-migration of males seeking work outside the DSS is frequent and in such instances very often the wife and children are left behind in the village with the husband's parents or other family members.

The proportionate distributions by sex and marital status at each age reveal, to some extent, the prevailing pattern of marriage formation. Taking the proportions never married in five year age groups starting from the ages 10-14 years up to 50-54 years it is possible to obtain an estimate of the singulate mean age at first marriage (Hajnal, 1953). From the 1974 census in the DSS it appears that females married at the average age of 17 and males at 24.6 years. Earlier censuses taken in the villages under surveillance (in 1968 in the New Trial Area, NTA, and in 1970 in the Old Trial Area, OTA) gave somewhat lower average ages at marriage for females, namely 15.7 and 16.2 years in 1968 and 1970 respectively; for males, on the other hand, the singulate mean age at first marriage was in both earlier censuses constant

3/ On theoretical grounds, taking the levels and patterns of mortality as obtained in 1974, out of 100 couples marrying at the typical ages, namely grooms at 25 and brides at 15 years of age, 71 would be still both alive 30 years later when the wife approached the end of her reproductive life; nine males would have lost their wives and 17 wives their husbands because of premature death. Only two out of the original 100 couples would both wife and husband be dead before the end of the 30-years period after marriage. Despite the higher female than male mortality, the wide gap between the ages of bride and groom makes it almost twice as likely for a wife to become a widow as for a husband to become a widower within the given marriage duration.

4/ With the surveillance family records showing in most instances the true state of affairs such instances would have been rather rare.

at 24.9 years and not markedly different from that obtained in 1974. Considering the limitations of the indirect method of estimation of the mean age at marriage^{5/} the results from the DSS censuses are in close agreement with those of the Bangladesh Retrospective Survey of Fertility and Mortality (BRSFM 1974) but higher than those derived from the 1974 National Census. The trends of increasing age at first marriage appear to be in agreement with other evidence (Table 2).

TABLE 2
Singulate mean age at marriage in the DSS and from other data

DSS censuses	Males	Females	Other data*	Males	Females
1968 NTA	24.9	15.7	BRSFM 1974	24.9	16.5
1970 OTA	24.9	16.2	Census 1951	22.4	14.4
1974 DSS	24.6	17.0	1961	22.9	13.9
			1974	24.0	15.9

* A.K.M. Ghulam Rabbani et al. (1976); BRSFM 1974 (1977).

Marriage in the rural areas of Bangladesh is a seasonal affair. The typical seasonal pattern was, in 1975, distorted by the famine. In 1976 the data reflect what appears to be a normal pattern: marriages taking place with higher frequencies in the winter months: December, followed by February and March. The second marriage season appears to be spread wider over June-July-August. In both instances the marriage seasons coincide with the major agricultural seasons: of aman rice harvested in October-November and of aus crops in the June-August period. The damage of the aman crops in 1974 obviously reduced the number of marriages in the early 1975. Some 'catching-up' effect may have raised the frequency of marriages in June-August 1975 and, in particular, after the major aman crop, in December 1975. On the whole, however, the number of marriages in 1975 remained far below that of 1976. (Table 3.)

Not all eligible men find a bride in their own village or in the DSS area; neither do all eligible women find a suitable husband within those boundaries. As it is traditionally the bride who moves from the parental home to that of her husband, the single main cause of migration of young women is marriage. In about one-quarter of all marriages registered in the DSS in 1975 and 1976 the bride came from outside the registration area (24.3 percent of all brides in 1975 and 27.1 percent in 1976). The migration pattern associated with marriage closely resembles the seasonal pattern of marriages described in the

^{5/} The assumptions underlying the calculation of the singulate mean age at first marriage are: no person died between the ages 10 and 55 years; the marriage pattern in the past was stable and, as to the future, would remain stable following the age pattern represented by the proportions never married of the census data.

TABLE 3

Seasonality of marriages in 1975 and 1976 in the DSS

Month:	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year
Monthly number of marriages													
1975	166	207	169	116	200	324	276	287	193	255	155	447	2,795
1976	309	515	563	170	410	471	489	461	234	334	199	579	4,734
Seasonal index*													
1975	70	96	71	51	84	141	116	121	84	107	67	188	100
1976	77	137	140	44	102	121	122	115	60	83	51	144	100

* Based on the expected number of marriages in a given month $E = M.n/365$ where M is the annual total, n is the number of days in the given month; seasonal index $I = 100. O/E$ where O is the recorded number of marriages in the given month.

preceding paragraph. It also suggests that in 1974 (for which year there are no marriage data) the damage to the aman and aus rice crops depressed the number of marriages below what would have been a 'normal' level. (Table 4.)

TABLE 4

The female migration associated with marriage by quarters 1974-1976

Year	January-March	April-June	July-September	October-December	Total
1974	Number of female migrants				
in	218	69	143	114	544
out	293	86	128	171	678
total	511	155	271	285	1,222
1975					
in	99	178	186	215	678
out	157	217	251	259	884
total	256	395	437	474	1,562
1976					
in	364	315	305	303	1,287
out	380	320	323	334	1,357
total	744	635	628	637	2,644

The marriage registration statistics reveal differentials in marriage formation patterns between males and females that were only incompletely disclosed by the census data. The first one concerns marital status at the time of marriage (Table 5). More brides than grooms were single, more grooms than brides were divorced or widowed. In other words, widows and divorcees had less chance to re-marry than widowers or divorced males. Polygyny was not very frequent in the villages of the DSS: only a small fraction of grooms, ranging from four to six percent, had already at least one wife when marrying again. From the comparison of the marital status of grooms in 1975 and 1976 it would appear that the adverse economic conditions of 1975 affected the first marriages: the percentage of bachelors among the grooms was 67 in 1975 in contrast to 73 in 1976. This is not reflected in the data for brides as in both years over 80 percent were never married before and the percentage was only marginally higher in 1976 than in 1975.

TABLE 5
Percentage distribution of brides and grooms by marital status

Year	Single	Married	Widowed	Divorced	Total
1975					
Brides	81.3	-.-	1.8	16.9	2,795
Grooms	67.0	6.0	6.3	20.7	
1976					
Brides	82.9	-.-	1.7	15.4	4,734
Grooms	72.9	4.2	4.2	18.7	

Age at the first marriage was generally low as noted earlier. In both years about half of the brides were below 17 years of age and half of the grooms below the age of 25 years. Divorced grooms were, on the average, between 29 and 30 years old while divorced women were about 10 years younger when re-marrying. A considerably higher was the age of widowers at re-marriage: between 38 and 39 years; on the other hand, only younger widows, on the average 25-27 years old, married again. Half of the husbands taking an additional wife were below or about 35 years of age. The marriage records did not reveal any significant differences in the ages at marriage between Muslims and Hindus in the DSS area. (Table 6.)

The average (or median) age at marriage gives some indication of the differences between the ages of the marriage partners. However, mean values never reveal the total distributional pattern. In Table 7 the average age differences between brides and grooms were obtained from the age data for each individual couple and tabulated by the age of the groom. It appears that the younger grooms marry wives not very much younger than they are themselves;

TABLE 6

Average and median ages at marriage by the partners' previous marital status and religion

Year		Single	Married	Widowed	Divorced	Muslims	Hindus
1975							
Males	Av.	24.9	36.0	38.4	29.8	27.3	27.8
	Me	25.3	33.6	37.4	28.3		
Females	Av.	16.5	--	26.7	20.4	17.4	17.1
	Me	16.4	--	24.7	19.5		
1976							
Males	Av.	24.4	37.2	39.1	29.5	26.6	26.5
	Me	24.7	35.3	37.1	28.2		
Females	Av.	16.7	--	25.3	20.3	17.4	17.4
	Me	16.5	--	23.6	19.3		

TABLE 7

Average difference (in years) between groom and bride

Groom's age at marriage	Groom's marital status							
	Single		Married		Widowed and/or divorced			
	1975	1976	1975	1976	1975 wid.	1975 div.	1975 w & d	1976 w & d
under 20	3.4	3.0	3.0	2.0	4.8	2.8	2.9	2.7
20-24	6.4	6.2	5.9	5.4		5.6	5.6	5.9
25-29	10.2	9.8	9.7	8.9	10.9	9.6	9.8	9.8
30-34	13.8	13.3	12.6	12.7	13.5	12.8	13.0	13.3
35-39	19.6	17.6	19.4	19.0	17.5	18.7	18.2	17.4
40-44	25.8	25.5	22.7	19.0	23.3	21.9	22.7	21.2
45-49		31.5	32.4	27.0	22.1	22.8	22.4	25.3
50 & over		--		30.1	30.4	32.8	31.2	33.3
All grooms	8.6	7.9	17.3	16.6	18.0	11.6	13.1	12.8

with the increasing age of the groom at first marriage as well as at re-marriage, the age difference increased rapidly. It culminated, on the average, among the old grooms, most of whom were re-marrying, and generally exceeded

30 years. The grooms in their forties were marrying wives on the average 20 years younger than themselves and this difference might have been somewhat larger at first marriage than at re-marriage. The majority of grooms were in their late twenties and the average would marry wives about ten years younger.

The rapidly increasing difference between the ages of the groom and bride suggests that there exists an age limit to the woman's eligibility for marriage. Only about one percent of the brides in the two years were 30 years old or older, all of them divorcees or widows. Only four brides in the two years were reported to be 25 years of age at their first marriage. With the strong emphasis on procreation as the purpose of marriage the age limit to women's eligibility for marriage is not surprising.

In 1975 some additional information, not sought in the subsequent years, was collected about the residence of the partners before marriage and marriage arrangements.

It appears that only exceptionally are the groom and bride from the same bari or even from the same village: about 2 and 8 percent respectively. Similarly, a low proportion of partners (10.8 percent) lived in the same union before marriage. In the overwhelming majority of marriages the selection of the suitable partner has been made within a wider area - thana (40.9 percent) being the most frequent one but district and beyond (23.1 and 14.4 percent respectively) ranking high as well. To some extent at least, it appears that the area within which a suitable bride is being looked for depends on the groom's marital status (Table 8). Husbands looking for an additional wife are likely to seek her not only outside their village but often outside the district. This may be conditioned by the circumstances under which a polygynous marriage takes place: often the husband, whose first wife resides in the village with his parents or close relatives, takes another wife in the place where he works. Widowers are also likely to seek or find a wife outside the immediate vicinity of their residence.

Among the brides only the few widows who re-married appeared to differ in the residential pattern from the rest: almost one-quarter married husbands from the same bari; in some instances the husband might have been a younger relative (brother) of the deceased first husband.

In Bangladesh as in other traditional societies marriage is not necessarily voluntary; most marriages are arranged by parents, relatives, guardians. It is frequently an alliance between lineages rather than between individuals. In 1975, only about 5 percent of the recorded marriages, Muslim and Hindu alike, were reported as being arranged by the partners themselves. The arrangements, however, differed depending upon the partners' marital status. Husbands seeking another wife and re-marrying widowers or divorced men were more likely to look for a suitable wife themselves: about one out of five men seeking an additional wife and one of ten re-marrying men made the arrangements themselves.

TABLE 8

Groom's and bride's residence before marriage, 1975 marriages

Groom's status, number	Same bari	Same village	Same union	Same thana	Same district	Other district	N/s
Percentage distribution							
First marriage 1,872	2.0	8.9	10.8	42.0	23.3	12.5	0.5
Married 169	2.4	5.3	5.3	32.0	17.7	36.7	0.6
Widowed 175	1.1	2.9	9.7	40.6	23.4	21.1	1.1
Divorced 579	2.6	8.1	12.4	40.2	23.8	12.3	0.5
<hr/>							
Bride's status, number							
First marriage 2,272	1.6	7.4	10.3	42.7	23.3	14.1	0.5
Widow 50	22.0	12.0	4.0	22.0	28.0	10.0	2.0
Divorced 473	2.1	11.0	13.7	34.3	21.6	16.7	0.6
<hr/>							
All marriages 2,795	2.1	8.1	10.8	40.9	23.1	14.4	0.6

Also divorcees and widows were often arranging their re-marriage without the assistance of parents or relatives (19 percent of re-marrying widows and 15 percent of divorcees).

As pointed out earlier, widowed and divorced men are more likely to re-marry than women in the similar situation; moreover, the former are likely to re-marry after a shorter time than the latter. On the average, widowers re-marry within two years after the deaths of their previous wives, but more than half of them did so within one year. Divorced men re-married, on the average, after just over one year after divorce, but again, half of them did so within 12 months in 1976 and almost two-thirds in 1975. (Table 9.)

There appears to be some indication of the waiting time being slightly longer as the re-marrying men grow older, but the relationship is not very clearly marked, partly because of relatively small numbers in the very young and the older age groups.

TABLE 9

Average time elapsed between the termination of previous marriage and re-marriage

Age at re-marriage	Year	Number	Average waiting time (months)	Percentage re-marrying after months			Number	Average waiting time (months)	Percentage re-marrying after months		
				-11	12-35	36-			-11	12-35	36-
divorced men							widowed men				
under 20	1975	21	15.0	57.1	23.8	19.1					
	1976	26	9.7	72.0	24.0	4.0					
20-24	1975	106	12.4	66.0	19.8	14.2	35	22.2	48.6	37.1	14.3
	1976	231	13.9	55.0	39.4	5.6	50	13.7	58.0	38.0	4.0
25-29	1975	220	13.5	58.2	27.7	14.1					
	1976	285	16.1	50.5	40.0	9.5					
30-34	1975	113	14.1	62.8	18.6	18.6					
	1976	190	17.1	54.2	31.6	14.2					
35-39	1975	62	10.6	74.2	16.1	9.7	75	17.4	53.3	37.3	9.4
	1976	87	18.9	43.7	41.4	14.9					
40-49	1975	40	18.8	57.5	20.0	22.5	47	29.1	59.6	12.8	27.6
	1976	47	16.7	46.8	40.4	12.8	40	18.7	62.5	25.0	12.5
50 & over	1975	10	37.0	30.0	30.0	40.0	19	19.3	63.2	21.0	15.8
	1976	19	25.1	57.9	21.1	21.0	37	45.2	32.4	27.0	40.6
Total	1975	572	13.9	61.7	22.6	15.7	175	23.9	52.6	27.4	20.0
	1976	884	16.0	52.4	37.3	10.3	202	21.9	52.5	33.2	14.3

Divorced women have to wait, generally, almost two years before they find a new husband and those few who re-married at the age 25 or older had to wait between 2½ and 4 years. Very few widows re-married both in 1975 and 1976 and, being generally somewhat older than the divorcees, waited for between 2½ and 3 years. (Table 10.)

In the two years for which data are available there were 367 polygynous marriages recorded. The time elapsed between the husband's prior marriage and his subsequent one was, on the average, just under three years if the husband was under 30 years of age at the time of his second (or additional) marriage. However, one-third of husbands taking an additional wife did so just under one year after previous marriage. Older husbands waited generally longer, averaging six years if 40 years of age or older, before taking another wife. However, even at

TABLE 10
Average time elapsed between the termination of
previous marriage and re-marriage

Age at re-marriage	Year	Number	Average waiting time (months)	Percentage re-marrying after months		
				-11	12-35	36-
Divorced women						
under 16	1975	35	15.6	42.9	48.6	8.5
	1976	60	15.2	40.0	53.3	6.7
16-19	1975	231	18.6	40.3	45.0	14.7
	1976	341	19.3	42.8	42.8	14.4
20-24	1975	148	24.5	33.1	41.2	25.7
	1976	239	25.6	26.4	46.8	26.8
25-29	1975	42	32.6	35.7	38.1	26.2
	1976	48	30.0	33.3	35.4	31.3
30 & over	1975	17	48.4	29.4	17.7	52.9
	1976	38	31.4	34.2	36.8	29.0
All divorced women						
All divorced women	1975	473	22.5	37.4	42.5	20.1
	1976	726	22.4	36.1	44.2	19.7
Widowed women						
All widowed women						
All widowed women	1975	50	27.5	36.0	30.0	34.0
	1976	81	38.7	17.3	42.0	40.7

this age more than one-fifth did so only after less than one year. The pattern at the older ages (30 and above) seems to be either to marry the additional wife early, soon after the preceding marriage, or with some often considerable delay. It is likely that the second marriage following soon after the first one takes place in the instances when the first wife did not conceive during the first year of marriage.^{6/} (Table 11.)

^{6/} Most of the young males who took an additional wife were childless; among those who married again while under 25 years of age, 85 percent were without a living child and 10 percent with one child only. Among those who were between 25 and 34 years of age when marrying an additional wife, 45 percent were childless and 13 percent with one child. Older husbands, on the other hand, had three or more living children when taking their second (or additional) wife: 51 and 72 percent were in this category among those aged 35-44 years and 45 years and over respectively at their new marriage.

TABLE 11

Average time elapsed between previous marriage and the current one
of polygynous husbands

Age at groom's present marriage	Year	Number	Average waiting time (months)	Percentage marrying additional wife after months		
				- 11	12-35	36+
Under 30	1975	46	31.5	32.6	32.6	34.8
	1976	60	39.4	33.3	23.3	43.4
30 - 39	1975	71	47.4	42.3	5.6	52.1
	1976	68	61.6	26.5	8.8	64.7
40 - 49	1975	32	73.2	21.9	3.1	75.0
	1976	44	77.2	27.3	4.5	68.2
50 & over	1975	20	70.4	25.0	10.0	65.0
	1976	26	73.4	30.8	3.8	65.4
All ages	1975	169	50.7	33.7	13.0	53.3
	1976	198	59.9	29.3	11.6	59.1

In 1975 the re-marrying women were asked how many living children they had from their previous marriage(s). Out of the 50 widows that re-married 29 were childless or with one child only and 21 had two or three living children. Not surprisingly the latter had to wait about 9 months longer to re-marry than the former (32.3 and 23.2 months on the average respectively).

As the 473 divorced women re-marrying in 1975 are concerned, more than two-third did not ever have a live birth and almost one-quarter had one live birth only. Truly enough, the majority of the divorced women re-marrying were under 20 years of age, but with the age at marriage being on the average 17 years, it appears that the frequent cause of divorcing a young wife was inability to conceive and to produce a live birth soon after marriage.

TABLE 12
Average number of live births from previous marriage
and percentage childless among divorced brides

Age at re-marriage:	under 15	15-19	20-29	30 & over
Number of brides	16	250	190	17
Average number of live births	0.12	0.16	0.84	3.47
Percentage without live birth	87.5	84.8	47.4	17.6

Childlessness as a cause of divorce may be also implied from the data on the living issue of re-marrying divorced males: two-thirds of all re-marrying divorced males in 1975 had no living child and another 20 percent had one child only. This proportion was higher among the younger grooms re-marrying after having divorced their previous wife. All divorced men re-marrying under the age of 25 years and 92 percent of those re-marrying while 25-29 years of age were childless or, rather exceptionally, had one child only.

Most widowers, on the other hand, when re-marrying, had some living children. However, even among them 29 percent were childless and another 13 percent had only one living child.

The number of divorces registered in 1975 was 681 and in 1976 it dropped marginally to 634. Relating the divorces of a given year to the number of marriages yields conventional divorce ratios per 100 marriages, namely 24.4 in 1975 and 13.4 in 1976. Those ratios, however, are biased measures of the propensity of marriages to break down, because of the difference in the number of marriages in 1975 and 1976. There is always some time lag between marriage and divorce and this may be, as will be shown later, quite considerable. So far we have data on marriages and divorces in the DSS for two years only and thus

we can examine only what proportion of marriages registered in 1975 was terminated by divorce within one year. An indirect linkage of the marriage cohort of that year with the divorces in 1975 and 1976 tabulated by marriage duration indicates that 6.4 percent of marriages of 1975 were terminated by divorce before the end of the first year after marriage.

The ratio was obtained from the following formula:

$$d_o = \frac{3D_1 + D_2 + D_1' + 3 D_2'}{4 M}$$

where D_1 and D_1' are divorces within marriage duration under six months in 1975 and 1976 respectively;

D_2 and D_2' are the number of divorces within marriage duration 6-11 months in the two years;

M is the number of marriages in 1975.

The ratio representing an unbiased estimate of the propensity of an early marital breakdown is dependent on the age at marriage. Only 5.1 percent of marriages ended up in divorce within one year after marriage if the husband was under 30 years of age; but 10.4 percent of marriages did so if the husband was 30 years of age or older. Similarly, if the wife was young, that is under 16 years of age, only 4.2 percent of marriages broke down and ended in a divorce within one year after marriage; in contrast, 7.6 percent of marriages were divorced within a year if the wife was 16 years or older. However, if we subdivided the women by the age at marriage into those who married while less than 18 years old and those aged 18 years and over, the proportion of marriages divorced within the first year increased to 4.9 and 10.6 percent respectively.

On the average, most divorces in 1976 occurred after less than three years and, in 1975, after less than four years since marriage. The average duration of marriage of the divorcing couples was a function of the husband's as well as wife's age. The younger were the husbands as well as the wives, the average duration of marriage prior to the divorce was shorter (Tables 13.A and 13.B). Moreover, there was a tendency of divorces in 1976 to occur in most instances about one year earlier after marriage than in 1975.

Because of the early marital breakdown most divorced males and females were relatively young: half of the males were between 28 and 29 years of age and half of the females were about 19 years old. The difference between the ages of the divorcing couples appears to be about the same as that found earlier at marriage. (Tables 14 and 15). It was about five years if the husband was less than 25 years of age, about 10 years if he was 25-34 years old and close to or around 20 years if he was older than 35 years at the time of divorce. In 1976 more divorces were recorded among the younger husbands and wives than

TABLE 13

Average duration of marriage at the time of divorce and percentage distribution of divorces by marriage duration, by husband's and wife's ages

A. Husband's age at divorce			under 25	25-29	30-34	35 & over	Total
Number of divorces	1975	160	202	146	173	681	
	1976	187	205	124	118	634	
Average duration of marriage (months)	1975	29.8	37.3	47.4	63.9	44.5	
	1976	23.7	26.4	44.5	47.7	33.1	
Percentage of divorces within marriage duration: less than 12 months	1975	17.5	21.3	17.1	15.6	18.1	
	1976	39.0	35.1	30.6	37.3	35.8	
12 - 35 months	1975	50.0	32.2	24.7	16.2	30.7	
	1976	36.9	36.6	18.6	14.4	29.0	
36 and more months	1975	32.5	46.5	58.2	68.2	51.2	
	1976	24.1	28.3	50.8	48.3	35.2	
B. Wife's age at divorce			under 17	17-19	20-24	25 & over	Total
Number of divorces	1975	135	261	158	127	681	
	1976	169	236	164	65	634	
Average duration of marriage (months)	1975	22.2	30.6	56.7	80.2	44.3	
	1976	14.6	26.0	42.3	80.0	32.7	
Percentage of divorces within marriage duration (months): under 12	1975	29.6	21.5	9.5	9.4	18.1	
	1976	55.0	36.9	26.8	16.9	37.1	
12 - 35	1975	47.4	43.3	14.6	6.3	30.5	
	1976	36.7	33.5	22.0	6.2	28.5	
36 and over	1975	23.0	35.2	75.9	84.3	51.4	
	1976	8.3	29.6	51.2	76.9	34.4	

in 1975 but there appears to have been some increase among the couples where the husband was old (say, 45 years or more) and the wife very young (under 20 years of age).

As mentioned earlier, the suspected frequent cause of divorce is childlessness. The inability of the couple to have children early after marriage may explain the high proportion of early divorces. The data on the number of

TABLE 14
Average and median age at divorce

Year	Number	Husband's age		Wife's age	
		Average	Median	Average	Median
1975	681	31.5	29.2	21.0	19.3
1976	634	30.3	28.2	19.8	18.6

TABLE 15
Difference in husband's and wife's age at divorce

Husband's age at divorce	Number of divorcing couples						Average age difference (only if wife younger)	
	wife older		wife same age than/as husband		wife younger		1975	1976
	1975	1976	1975	1976	1975	1976		
under 25	1	6	4	5	155	176	4.8	5.1
25 - 34	-	1	2	-	346	328	9.7	10.4
35 & over	1	1	-	1	172	116	17.7	21.2
Total	2	8	6	6	673	620	10.6	10.9

children still living at the time of divorce are available for 1975 only. They show that three out of five divorcing wives were without issue; however, all but one of the 24 wives aged under 15 years were childless and more than four out of five aged 15-19 years had no living children when they divorced. Childlessness, however, is undoubtedly not the main issue and cause of divorce when both husband and wife divorce at an advanced age. About 70 percent of divorcing wives aged 35 years and over and about the same percentage of husbands who sought divorce at about the same age had two or more living children. (Table 16.)

The information collected in the DSS on marriages and divorces throws some light on the demographic aspects and patterns of family formation and breakdown. It provides a basis for descriptive analysis and lends ground from which to start further exploration in depth of the social factors and determinants of the marital life cycle, and of the demographic implications, particularly with respect to fertility, of the prevailing marital patterns.

TABLE 16

Percentage distribution of divorcing wives and husbands
by age and the number of living children

Wife's age	Number	Number of living children				
		0	1	2	3	4+
Under 15	24	95.8	4.2	-	-	-
15 - 19	372	82.5	16.9	0.3	0.3	-
20 - 24	158	37.3	43.7	17.7	1.3	-
25 - 34	104	18.3	25.9	22.1	15.4	18.3
35 & over	23	13.0	17.4	8.7	4.4	56.5
Total	681	60.4	24.1	7.9	2.9	4.7
Husband's age						
Under 25	160	78.8	20.6	0.6		
25-34	348	56.0	29.6	11.5	2.3	0.6
35 & over	173	15.6	12.2	15.0	18.5	38.7
Total	681	51.1	23.1	9.8	5.9	10.1

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C. Tables

C.1 - C.4 Deaths

C.5 - C.10 Pregnancy terminations and live births

C.11-C.14 Migration

C.15-C.17 Marriages and Divorces

TABLE C.1 Deaths by age and month, 1976

Month	All deaths	Under 1 month	1 - 11 months	1 - 4 years	5 years and more	Percent of total deaths were under 1 year
January	378	51	39	89	199	23.8
February	337	31	35	106	165	19.6
March	395	33	44	166	152	19.5
April	358	37	56	130	135	26.0
May	281	33	33	87	128	23.5
June	255	54	32	68	101	33.7
July	280	72	25	72	111	34.6
August	301	75	17	60	149	30.6
September	306	88	21	65	132	35.6
October	307	87	20	57	143	34.8
November	303	78	41	43	141	39.3
December	355	97	61	28	169	44.5
Total	3,856	736	424	971	1,725	30.1

TABLE C.2 Deaths by sex and age, 1976

Age	Males	Females	Age	Males	Females	Age	Males	Females
months								
0*	415	320	0-4	1,038	1,092	45-49	45	34
1-5	134	162	5-9	86	106	50-54	83	46
6-11	58	70	10-14	23	29	55-59	71	56
years								
0*	607	552	15-19	17	38	60-64	103	98
1	144	186	20-24	19	26	65-69	97	80
2	145	172	25-29	14	22	70-74	98	78
3	88	115	30-34	23	21	75-79	77	47
4	54	67	35-39	26	29	80-84	42	36
			40-44	50	21	85+	46	38
Total							1,958	1,897

* 1 case sex not recorded.

TABLE C.3 Deaths by cause, sex and age, 1976

Cause of death	Age at death (years)										Total deaths
	under 1	1-4	5-14	15-24	25-34	35-44	45-54	55-64	65-74	75+	
	MALES										
Smallpox	-	-	-	-	-	-	-	-	-	-	-
Measles	23	147	19	-	-	-	-	1	-	-	190
Tetanus	178	9	5	-	1	1	-	1	-	-	195
Drowning	-	35	16	1	2	1	1	-	-	-	56
Murder	1	-	-	5	1	-	1	1	-	-	9
Suicide	-	-	-	1	2	-	-	-	1	-	4
Diarrhea (acute)	7	6	1	-	-	1	-	4	2	2	23
(chronic)	2	10	2	1	-	1	-	1	1	1	19
Dysentery (acute)	6	33	7	-	1	1	4	9	9	13	83
(chronic)	1	51	12	1	3	6	20	17	25	11	147
Jaundice	1	3	3	-	2	2	2	1	-	-	14
Other	277	33	12	6	4	14	18	26	27	10	427
Gastro-intestinal (other than cholera)	2	1	2	2	7	12	14	16	10	5	71
Respiratory (incl. cold, fever, cough, TB)	50	32	3	4	2	12	27	29	28	12	199
Heart diseases	-	-	-	1	2	3	5	5	5	5	26
Liver diseases	-	2	2	4	-	2	2	1	3	1	17
Venereal diseases	-	-	-	-	-	-	-	-	-	-	-
Skin diseases	3	2	-	-	-	-	-	1	1	2	9
E.N.T. diseases	-	-	1	-	-	-	1	3	1	1	7
Cholera (proved)	-	-	-	-	-	-	-	-	-	-	-
Dropsy	2	21	7	-	2	5	11	16	19	18	101
Rheumatism	2	1	-	1	-	2	4	12	12	18	52
Accident	-	1	1	3	-	1	2	1	-	1	10
Old age	-	-	-	-	-	-	1	11	34	87	93
Fever	26	41	16	6	6	12	13	15	16	16	167
Unknown	26	3	-	-	2	-	2	3	1	2	39
Total	607	431	109	36	37	76	128	174	195	165	1,958

TABLE C.4 Deaths by cause, sex and age, 1976

Cause of death	Age at death (years)													Total deaths
	under 1	1-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-54	55-64	65+	
FEMALES														
Smallpox	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Measles	28	151	22	1	-	-	-	-	-	-	-	-	-	202
Tetanus	172	8	4	1	-	2	-	1	1	-	-	1	1	191
Drowning	2	28	9	2	-	-	2	-	-	-	1	1	-	45
Murder	-	-	-	-	-	1	-	1	1	-	-	-	-	3
Suicide	-	-	-	-	2	3	-	-	-	-	1	-	-	6
Diarrhea (acute)	4	8	-	2	-	1	3	1	-	-	1	1	3	24
(chronic)	2	12	-	-	1	-	1	-	-	1	1	2	8	28
Dysentery (acute)	1	44	8	-	-	-	1	-	3	-	6	7	14	84
(chronic)	6	77	15	2	1	2	-	-	1	-	8	24	31	167
Child birth	-	-	-	-	4	3	2	-	4	1	-	-	-	14
Jaundice	-	4	-	-	2	-	2	-	-	-	-	-	-	8
Other	217	52	8	5	8	3	3	6	1	5	13	10	26	357
Gastro-intest. (other than cholera)	-	1	-	-	3	-	-	1	2	-	5	8	8	28
Respiratory (incl. cold, fever, cough, TB)	56	46	13	-	3	2	1	-	4	3	8	12	10	166
Heart diseases	-	1	1	-	-	-	1	1	-	1	2	3	5	15
Liver diseases	-	1	2	-	1	-	-	-	-	1	1	2	1	9
Venereal diseases	-	-	-	-	1	-	1	-	-	-	-	-	-	2
Skin diseases	1	4	-	1	-	-	-	-	1	-	-	-	2	9
E.N.T. diseases	2	1	1	-	-	-	-	-	-	-	1	-	-	5
Cholera (proved)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dropsy	5	39	9	2	4	2	-	3	5	2	11	38	37	157
Rheumatism	2	1	-	1	-	-	-	1	2	2	7	12	20	48
Accident	2	5	-	3	-	-	-	-	-	-	-	-	-	10
Old age	-	-	-	-	-	-	-	1	-	-	1	15	86	103
Fever	36	55	13	5	7	7	4	1	3	5	13	17	18	184
Unknown	16	2	1	4	1	-	1	4	1	-	-	1	1	32
Total	552	540	106	29	38	26	22	21	29	21	80	154	279	1897

TABLE C.5 Terminations of pregnancies by month, 1976

Month	Miscarriage	Stillbirth	Live birth*	Number of live born children		
				Total	Males	Females
January	63	26	614	622	317	305
February	71	22	577	580	290	290
March	93	27	638	640	348	292
April	93	29	501	506	257	249
May	108	29	668	673	351	322
June	103	29	752	758	405	353
July	117	36	898	905	472	433
August	114	39	1013	1029	528	501
September	79	64	1281	1296*	659	636
October	73	57	1367	1376	679	697
November	68	55	1487	1499	768	731
December	57	56	1375	1385	690	695
Total	1039**	469	11171	11269*	5764	5504

* 1 case sex not stated.

** 6 cases month not stated.

TABLE C.6 Multiple confinements, 1976

Sex	No.	Result					
		First child		Second child		Third child	
		Live birth	Stillbirth	Live birth	Stillbirth	Live birth	Stillbirth
M, M	34	34	-	33	1	-	-
M, F	19	19	-	15	4	-	-
F, M	19	19	-	18	1	-	-
F, F	30	30	-	28	2	-	-
M, M, M	1	1	-	1	-	1	-
F, F, F	1	1	-	1	-	1	-

TABLE C.7 Number of confinements resulting in live birth by mother's age and the number of surviving children (present birth excluded), 1976

Mother's age	Number of living children											Total mothers
	0	1	2	3	4	5	6	7	8	9	10+	
under 15	55	4	-	-	-	-	-	-	-	-	-	59
15-19	1736	580	57	2	1	-	-	-	-	-	-	2376
20-24	574	1251	866	258	27	7	-	-	-	-	-	2983
25-29	56	268	648	834	441	133	16	2	-	-	-	2398
30-34	11	66	212	467	574	486	233	82	20	4	-	2155
35-39	2	8	47	108	156	197	204	115	55	17	7	916
40-44	1	4	6	17	38	50	52	36	21	16	5	246
45 & over	-	-	3	1	5	8	10	2	3	1	5	38
Total	2435	2181	1839	1687	1242	881	515	237	99	38	17	11,171

TABLE C.8 Number of confinements resulting in live birth by mother's age and the number of previous pregnancies, 1976

Mother's age	Number of previous pregnancies (present birth excluded)											Total mothers	
	0	1	2	3	4	5	6	7	8	9	10+		
under 15	51	8	-	-	-	-	-	-	-	-	-	-	59
15-19	1394	782	165	28	6	1	-	-	-	-	-	-	2376
20-24	304	929	1025	520	152	40	9	3	1	-	-	-	2983
25-29	17	92	332	631	623	399	194	75	27	4	4	4	2398
30-34	5	18	46	167	351	488	411	326	197	80	66	66	2155
35-39	1	4	10	31	50	88	131	162	179	125	135	135	916
40-44	1	1	1	5	8	13	24	42	38	48	65	65	246
45 & over	-	-	-	2	-	4	2	7	4	7	12	12	38
Total	1773	1834	1579	1384	1190	1033	771	615	446	264	282	282	11,171

TABLE C.9 Number of confinements resulting in stillbirth by mother's age and the number of previous pregnancies, 1976

Mother's age	Number of previous pregnancies (present birth excluded)											Total mothers	
	0	1	2	3	4	5	6	7	8	9	10+		
under 15	6	2	1	-	-	-	-	-	-	-	-	-	9
15-19	75	29	10	1	-	-	-	-	-	-	-	-	115
20-24	10	23	31	20	9	4	4	2	-	-	-	-	99
25-29	2	6	6	9	19	22	5	5	4	2	-	-	80
30-34	1	-	3	6	11	17	19	13	5	8	6	-	89
35-39	-	1	-	1	3	2	10	5	7	9	13	-	51
40-44	-	-	-	-	2	2	-	3	4	5	10	-	26
45+	-	-	-	-	-	-	-	-	-	-	-	-	-
Total	94	61	51	37	44	47	36	26	20	24	29	-	469

TABLE C.10 Number of pregnancies resulting in miscarriage by mother's age and the number of previous pregnancies, 1976

Mother's age	Number of previous pregnancies (present birth excluded)											Total mothers	
	0	1	2	3	4	5	6	7	8	9	10+		
under 15	12	1	-	-	-	-	-	-	-	-	-	-	13
15-19	141	68	25	3	-	-	-	-	-	-	-	-	237
20-24	26	68	57	35	14	3	2	2	-	-	-	-	207
25-29	3	3	23	56	44	38	18	15	6	1	-	-	207
30-34	1	-	6	8	17	30	32	34	25	20	12	-	185
35-39	1	2	-	3	8	6	18	19	26	22	39	-	144
40-44	-	1	-	1	1	1	4	7	9	6	13	-	43
45+	-	-	1	-	-	-	2	-	1	4	1	-	9
Total	184	143	112	106	84	78	76	77	67	53	65	-	1045

TABLE C.11 Migration by sex, direction and month, 1976

Month	Males		Females		Month	Males		Females	
	In	Out	In	Out		In	Out	In	Out
January	393	485	424	438	July	271	349	396	408
February	231	387	408	451	August	309	334	382	422
March	205	292	345	410	September	306	353	299	344
April	135	154	201	174	October	340	269	365	250
May	547	736	609	553	November	340	210	388	231
June	343	443	429	466	December	338	371	485	486
Total						3758	4383	4731	4633

TABLE C.12 Migration by sex, age, and direction, 1976

Age	Males		Females		Age	Males		Females	
	In	Out	In	Out		In	Out	In	Out
under 5	579	523	486	532	40-44	171	134	73	59
5-9	512	441	468	377	45-49	86	68	41	52
10-14	440	566	539	638	50-54	80	65	59	42
15-19	446	887	1743	1656	55-59	46	28	35	46
20-24	358	678	579	614	60-64	28	35	37	38
25-29	418	409	309	274	65+	58	64	73	47
30-34	300	295	187	167					
35-39	236	190	102	91	Total	3758	4383	4731	4633

TABLE C.13 Migration by sex, age, direction and cause, 1976

A. MALES - In-migration

Cause	<10	10-14	15-19	20-24	25-29	30-34	35-44	45-54	55-64	65+	Total
Marriage	1	-	2	11	9	4	2	1	-	1	31
Service	-	3	4	7	22	29	23	7	4	4	103
Divorce	-	-	-	-	-	-	-	-	-	-	-
Dependent	1010	274	55	19	6	4	3	1	2	1	1375
Study	11	48	92	25	11	2	-	-	-	-	189
Better living.	5	8	34	21	37	47	61	31	5	4	253
Return home-after study	-	1	3	4	3	-	-	-	-	-	11
-after service	-	6	25	22	23	12	16	11	9	4	128
-after work	-	4	6	2	1	2	4	1	-	-	20
For livelihood	20	52	89	93	133	92	119	55	20	11	684
Adoption	17	1	-	-	-	-	-	-	-	-	18
Business	-	-	3	4	4	-	1	1	-	1	14
Work	-	10	14	9	7	7	10	5	2	-	64
Change in residence. . .	-	3	2	5	10	5	3	5	2	3	38
To join spouse/husband	-	-	1	-	-	-	1	-	-	-	2
parents	8	8	11	7	7	3	-	-	-	-	44
relatives.	6	2	4	5	6	5	5	2	1	1	37
Unknown	-	-	1	-	2	-	8	-	1	1	13
Separation	-	-	-	-	-	-	1	1	-	-	2
For treatment	-	-	-	-	2	-	1	-	-	-	3
Widow	-	-	-	-	-	-	-	-	-	-	-
Return home	11	17	83	91	77	59	101	32	22	19	512
Regular member.	-	-	9	22	36	24	29	12	3	4	139
Other	2	3	8	11	22	5	19	1	3	4	78
Total	1091	440	446	358	418	300	407	166	74	58	3758

TABLE C.13 Migration by sex, age, direction cause, 1976

B. MALES - Out-migration

Cause	<10	10-14	15-19	20-24	25-29	30-34	35-44	45-54	55-64	65+	Total
Marriage	-	-	2	4	3	1	-	-	-	-	10
Service	-	36	238	287	184	109	80	28	5	4	971
Divorce	-	-	1	-	-	-	1	-	-	-	2
Dependent	891	244	52	14	9	4	1	-	2	1	1218
Study	13	58	99	78	14	2	-	-	-	-	264
Better living	-	7	24	17	19	20	30	14	8	3	142
Return home-after study	-	-	2	2	-	-	-	-	-	-	4
after service	-	1	2	2	1	-	2	1	1	1	11
after work	-	-	1	-	-	-	-	1	-	-	2
For livelihood	18	63	136	102	92	91	126	50	24	30	732
Adoption	8	-	-	-	-	-	-	-	-	-	8
Business	1	12	39	29	15	11	13	5	-	3	128
Work	3	108	196	85	34	27	35	17	4	4	513
Change in residence. . .	-	1	14	17	6	14	15	5	9	9	90
To join spouse/husband	1	-	3	-	1	1	-	1	-	-	7
parents	19	8	10	4	-	-	-	-	-	-	41
relatives	3	5	7	1	3	1	1	1	1	4	27
Unknown	2	8	6	4	2	4	1	1	-	1	29
Separation	-	-	-	3	2	1	-	-	-	-	6
For treatment	-	-	-	-	-	-	-	1	-	1	2
Widow	-	-	-	-	-	-	-	-	-	-	-
Return home	5	3	19	14	13	6	7	3	4	2	76
Regular member	-	1	4	2	1	-	1	-	1	-	10
Other	-	11	32	13	10	3	11	5	4	1	90
Total	964	566	887	678	409	295	324	133	63	64	4383

TABLE C.14 Migration by sex, age, direction and cause, 1976

A. FEMALES - In-migration

Cause	<10	10-14	15-19	20-24	25-29	30-34	35-44	45-54	55-64	65+	Total
Marriage	-	109	1058	75	27	10	7	-	-	-	1286
Service	-	-	4	5	2	1	-	-	-	-	12
Divorce	-	19	85	25	9	1	1	-	-	-	140
Dependent	893	271	191	249	149	105	98	47	35	16	2054
Study	4	11	6	1	-	-	-	-	-	-	22
Better living	-	9	21	25	17	3	12	5	6	5	103
Return home-after study	-	1	1	-	-	1	-	-	-	-	3
after service	-	1	1	-	-	-	-	-	-	-	2
after work	-	5	2	-	-	-	-	-	-	-	7
For livelihood	21	41	116	87	49	28	20	22	19	30	433
Adoption	13	-	-	-	-	-	-	-	-	-	13
Business	-	-	-	-	-	-	-	-	-	-	-
Work	1	10	5	-	-	-	-	1	-	-	17
Change in residence.	1	1	-	3	1	1	-	1	1	-	9
To join spouse/husband	-	2	61	17	11	5	6	2	1	-	105
parents.	7	17	16	5	1	-	-	-	-	-	46
relatives.	6	5	29	3	1	2	-	-	2	3	51
Unknown	-	-	3	3	2	-	-	1	-	-	9
Separation	-	7	77	32	11	-	-	1	-	-	128
For treatment	-	-	1	-	-	1	-	-	-	-	2
Widow	-	-	1	3	1	2	1	-	-	-	8
Return home	7	25	58	35	25	22	28	19	7	18	244
Regular member	-	-	-	3	-	3	1	-	1	-	8
Other	1	5	7	8	3	2	1	1	-	1	29
Total	954	539	1743	579	309	187	175	100	72	73	4731

TABLE C.14 Migration by sex, age, direction and cause, 1976

B. FEMALES - Out-migration

Cause	<10	10-14	15-19	20-24	25-29	30-34	35-44	45-54	55-64	65+	Total
Marriage	1	217	935	175	22	4	3	-	-	-	1357
Service	2	4	13	2	5	4	1	-	1	-	32
Divorce	-	2	81	35	12	1	1	1	-	-	133
Dependent	848	231	218	189	141	93	75	44	37	19	1895
Study	1	21	20	5	-	-	-	-	-	-	47
Better living	3	10	14	11	10	5	4	4	3	3	67
Return home-after study	-	1	-	-	-	-	-	-	-	-	1
after service	-	-	-	-	-	-	-	-	-	-	-
after work	-	2	-	1	-	-	-	-	-	-	3
For livelihood	10	39	111	67	37	32	42	29	26	17	410
Adoption	21	2	-	-	-	-	-	-	-	-	23
Business	-	-	-	-	-	-	1	-	-	-	1
Work	4	63	27	6	5	3	5	4	1	-	118
Change in residence	-	1	3	3	1	2	1	1	7	-	19
To join spouse/husband	-	9	141	84	24	16	13	2	1	-	290
parents.	13	13	18	3	5	2	-	-	-	-	54
relatives.	1	9	9	6	1	-	-	6	7	3	42
Unknown	-	2	4	1	-	-	2	-	-	1	10
Separation	1	6	45	13	5	4	1	1	-	-	76
For treatment.	-	-	1	-	1	-	-	-	-	-	2
Widow	-	-	2	3	-	-	-	-	-	-	5
Return home	3	5	12	9	5	-	-	1	-	-	35
Regular member	-	-	-	-	-	-	-	-	-	-	-
Other	1	1	2	1	-	1	1	1	1	4	13
Total	909	638	1656	614	274	167	150	94	84	47	4633

TABLE C.15 Marriages and Divorces by month, 1976

Month	Number of		Month	Number of	
	Marriages	Divorces		Marriages	Divorces
January	309	54	July	489	49
February	515	60	August	461	48
March	563	63	September	234	47
April	170	28	October	334	44
May	410	61	November	199	61
June	471	50	December	579	69
			Total	4,734	634

TABLE C.16A. Marriages by age and previous marital status, MALES, 1976

Groom's age	Groom's Marital Status				Total
	Single	Married	Widowed	Divorced	
under 20	433	2	-	25	460
20 - 24	1,400	19	13	231	1,663
25 - 29	1,356	38	37	285	1,716
30 - 34	233	38	33	190	494
35 - 39	25	30	42	87	184
40 - 44	1	28	23	29	81
45 - 49	2	16	17	18	53
50 - 54	-	14	14	9	37
55 - 59	-	7	5	4	16
60 & over	-	6	13	5	24
Total	3,450	198	201	885	4,734

TABLE C.16B. Marriages by age and previous marital status, FEMALES, 1976

Bride's age	Bride's marital status			Total
	Single	Widowed	Divorced	
under 12	32	-	1	33
12 - 14	629	1	20	650
15 - 19	3,011	19	380	3,410
20 - 24	240	24	239	503
25 - 29	3	19	48	70
30 - 34	1	8	26	35
35 - 39	-	6	8	14
40 - 44	-	3	4	7
45 & over	-	1	-	1
Total	3,916	81	726	4,734

TABLE C.17 Divorce by sex and age

Age	Males	Females
under 15	27	30
15 - 19		375
20 - 24	160	164
25 - 29	205	36
30 - 34	124	15
35 - 39	37	9
40 - 44	28	
45 - 49	23	
50 - 54	13	5
55 - 59	3	
60+	14	
Total	634	634

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ANNEX I

Estimation of the population by age and sex as of 1 July 1976: methodology.

The estimation procedure was, as in 1975, based on the balancing equation. The starting point was the distribution of the population by sex and five-year age groups as obtained for 1 July 1975. Because single age distribution was not available, it was not possible to follow the same procedure as outlined in DSS-Matlab: Volume 4 (Annex I.) for 1975. Only at the ages 0-4 years where estimates by single year were available for mid-1975 the methodology remained unchanged and used in 1976 as well. The population size at ages 5-9 and subsequent age groups including 65 years and over was estimated as

$$P(1976; 5-9) = P(1975; 5-9) - \frac{1}{2} \left\{ D(1975; 5-9) + D(1976; 5-9) \right\} \\ + \frac{1}{2} \left(M(i)(1975; 5-9) + M(i)(1976; 5-9) \right) \\ - \frac{1}{2} \left(M(o)(1975; 5-9) + M(o)(1976; 5-9) \right)$$

and similarly for all other age groups. ||

The estimated total at the ages five years and over was then compared with the independent estimated obtained from the balancing equation irrespective of age. It was assumed that the global estimate was more reliable than the estimate by age. Further, the estimates by single ages 0-4 years considered more reliable than the estimates at higher ages. On the basis of the comparison of the population size (males and females separately) obtained for total population EP minus age group 0-4 years, i.e. EP(5-) and the sum of age groups 5-9 to 65+, say, EP(X), a correction factor was obtained as

$$k = EP(5-) / EP(X)$$

for each sex and all age-specific estimates were upgraded by the same factor k to obtain agreement between the two independent estimates.

CRL publications can be obtained from Publications Unit, Cholera Research Laboratory, G.P.O. Box 128, Dacca - 2, Bangladesh.

List of current publications available:

A. CRL Annual Report 1976

CRL Annual Report 1977

B. Working Paper:

No. 1. The influence of drinking tubewell water on diarrhea rates in Matlab Thana, Bangladesh by George T. Curlin, K.M.A. Aziz and M.R. Khan.

No. 2. Water and the transmission of El Tor cholera in rural Bangladesh by James M. Hughes, John M. Boyce, Richard J. Levine, Moslemuddin Khan and George T. Curlin.

No. 3. Recent trends in fertility and mortality in rural Bangladesh 1966-1975 by A.K.M. Alauddin Chowdhury, George T. Curlin.

C. Scientific Report:

No. 1. Double round survey on pregnancy and estimate of traditional fertility rates by A.K.M. Alauddin Chowdhury.

No. 2. Pattern of medical care for diarrheal patients in Dacca urban area by Moslemuddin Khan, George T. Curlin and Md. Shahidullah.

No. 3. The effects of nutrition on natural fertility by W. Henry Mosley.

No. 4. Early childhood survivorship related to the subsequent inter-pregnancy interval and outcome of the subsequent pregnancy by Ingrid Swenson.

No. 5. Household distribution of contraceptives in Bangladesh-the rural experience by Atiqur R. Khan, Douglas H. Huber and Makhliur Rahman.

No. 6. The role of water supply in improving health in poor countries (with special reference to Bangladesh) by John Briscoe.

No. 7. Urban cholera study, 1974 and 1975, Dacca by Moslemuddin Khan, George T. Curlin.

No. 8. Immunological aspects of a cholera toxoid field trial in Bangladesh by George T. Curlin, Richard J. Levine, Ansaruddin Ahmed, K.M.A. Aziz, A.S.M. Mizanur Rahman, Willard F. Verwey.

No. 9. Demographic Surveillance System - Matlab. Volume One. Methods and Procedures.

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D. Special Reprint:

Management of cholera and other acute diarrhoeas in adults and children - World Health Organization.