DEMOGRAPHIC SURVEILLANCE SYSTEM–MATLAB

VOLUME TWENTY EIGHT

REGISTRATION OF DEMOGRAPHIC EVENTS 1996

Golam Mostafa
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Scientific Report No. 82
January 1998

CENTRE
FOR HEALTH AND
POPULATION RESEARCH

ICDDR,B: Centre for Health and Population Research
Mohakhali, Dhaka 1212
Bangladesh

What is the Centre for Health and Population Research (ICDDR,B)?

ICDDR,B, or "The Centre", was established in 1978 as the successor to the Cholera Research Laboratory, which was created in 1960 to study the epidemiology, treatment, and prevention of cholera. The Centre is an independent, international, non-profit organization for research, education, training, and clinical services. Located in Dhaka, the capital of Bangladesh, the Centre is the only truly international health research institution based in a developing country. The results of research conducted over the years at the Centre provide, today, guidelines for policy-makers, implementing agencies, and health professionals in Bangladesh and around the globe. Researchers at the Centre have made major scientific achievements in diarrhoeal disease control, maternal and child health, nutrition, and population sciences. These significant contributions have been recognized worldwide.

How is the Centre Organized?

The Centre is governed by a distinguished multinational Board of Trustees comprising researchers, educators, public health administrators, and representatives of the Government of Bangladesh. The Board appoints a Director and Division Directors who head the four scientific divisions and the support service divisions of Finance, and Administration and Personnel.

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The **Public Health Sciences Division**, staffed with public health professionals, epidemiologists, social scientists, and economists, focuses on the evaluation of population-based interventions to improve reproductive, sexual and child health. The Division is responsible for primary health care research in rural Matlab, where there is a population of about 210,000 under demographic surveillance. The Division also has programmes in: Reproductive Health; Child Health; Health and Demographic Surveillance; Social and Behavioural Sciences; and Health Economics. Other intervention projects take place in Chakaria, Chittagong, and urban Dhaka.

The **Laboratory Sciences Division** has a research programme with branches in enteric bacteriology, molecular genetics, environmental microbiology, immunology, virology, parasitology, reproductive tract infections, acute respiratory infections, and nutritional biochemistry; and a laboratory service programme with branches in clinical pathology, histopathology, biochemistry, and microbiology.

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The **Training and Education Department** conducts and coordinates a broad-based training programme that aims at contributing toward the development of global human resources in child survival and population programme research, planning, and implementation.

Computer Information Services: The new IT strategy, including the Computer Upgrade project, is completed. Under the Project the IBM mainframe 4361 is replaced by two mid-range hosts AS/400 and SUN Solaris Unix Server. The SUN Enterprise Server is used for large data sets, and for this purpose Oracle

(See inside of the back cover...)

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Volume Twenty Eight

Registration of Demographic Events 1996

With a Special Supplement

Recent Changes in Nuptiality Patterns in Matlab

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SUMMARY

This report presents the vital registration data for events taking place in 1996 in Matlab, Bangladesh. These data were collected by the Demographic Surveillance System of the International Center for Diarrhoeal Disease Research, Bangladesh. The surveillance area is divided into a Maternal and Child Health and Family Planning (MCH-FP) intervention area and a Comparison area receiving government services.

In 1996 fertility decreased in the MCH-FP area compared to 1995; the crude birth rate declined to 22.4 per 1,000 and the total fertility rate to 2.7 births per woman. Fertility also fell in the Comparison area, where the crude birth rate was 26.7 and total fertility rate 3.5 birth per women.

In the MCH-FP area the crude death rate rose to 7.6 per 1,000 compared to 1995 and in the Comparison area it dropped to 7.9. In the MCH-FP area the infant mortality showed an increase from 51.1 in 1995 to 66.2 per 1,000 live births in 1996. In the Comparison area infant mortality declined from 78.6 in 1995 to 67.0 per 1,000 live birth in 1996, which was the lowest level recorded ever. Child mortality between 1 and 4 years of age decreased in both MCH-FP and Comparison areas whereas under five-mortality increased in the MCH-FP area and decreased in Comparison area. The trends in under-five mortality are illustrated in Figure 2.1(b).

The data presented in Chapters 2 and 3 show an increase in infant mortality in the MCH-FP area compared to 1995. This raises the question if this increase is genuine or also to some extent due to under reporting of deaths in particular in infancy in previous years. To find out if under reporting has occurred, several checks were carried out, but they did not show any indication of under reporting. The possibility can, nevertheless, not be excluded and, therefore, a more through and rigorous inquiry has to be undertaken in the coming year. Such an inquiry should actually already have taken place (see 1995 DSS Annual report), but had to be postponed.

The rate of in- migration for the surveillance area decreased to the level 25.1 per 1,000 in 1996 and also out-migration decreased at 35.0 per 1,000, leaving a net out-migration of 9.9 per 1,000, thus offsetting the rate of natural increase, which amounted to 16.8 per 1,000 in 1996, so that the overall rate of population growth was reduced to 0.7 percent per annum.

This report also presents a Special Supplement (in Chapter 7) with data on recent changes in nuptiality patterns in the period 1975-1996.

CHAPTER 1

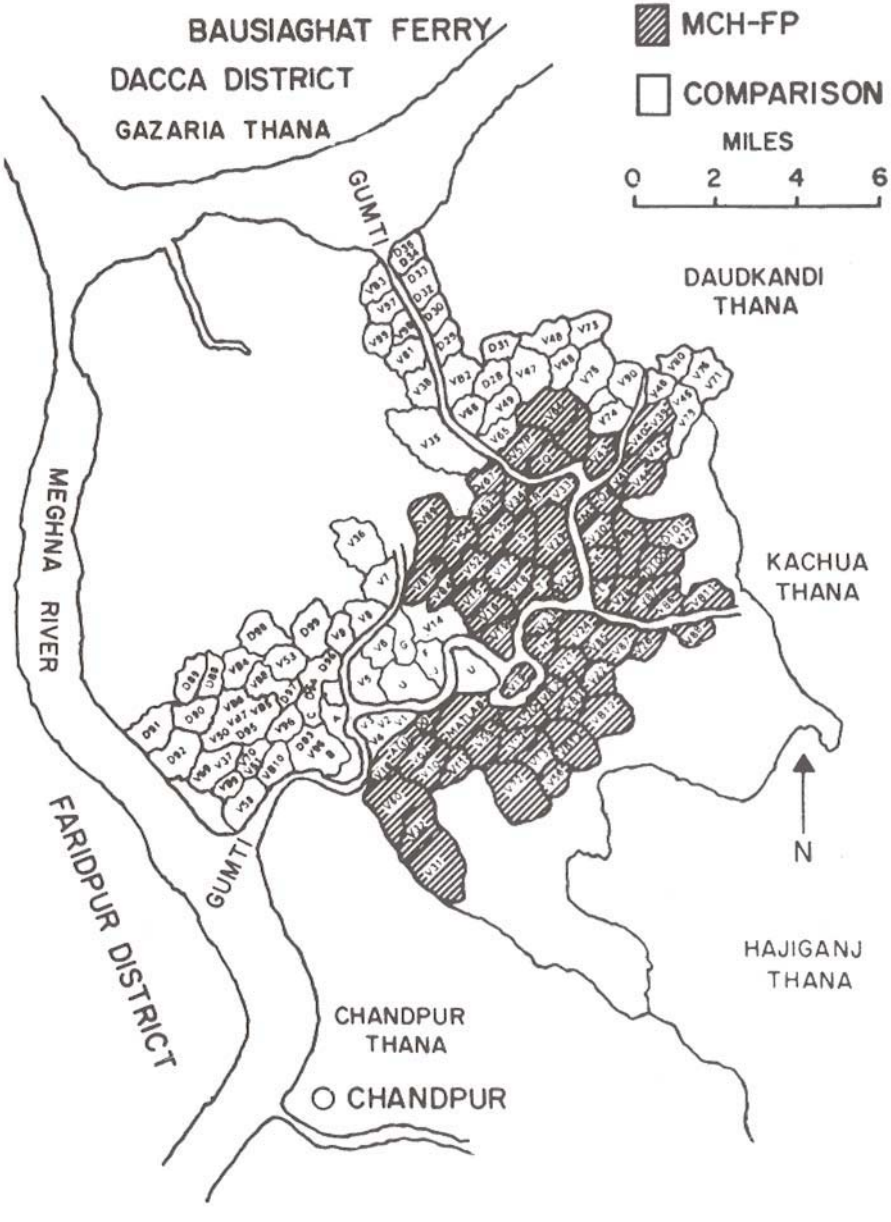
INTRODUCTION

Since 1963 the International Center for Diarrhoeal Disease Research, Bangladesh (ICDDR,B), formerly the Cholera Research Laboratory, has been conducting a health related research program near the town of Matlab, in rural Bangladesh. Matlab is located about 55 kilometers southeast of the country's capital, Dhaka (Figure 1.1). The Demographic Surveillance System (DSS) is one of the components of this field program. Since 1966 the DSS has maintained the registration of births, deaths, and migrations, in addition to carrying out occasional censuses. In 1975 the system was augmented to include marriages and divorces. This information is gathered by Community Health Workers and Health Assistants who visit each household in their assigned areas regularly and fill out the event registration forms. A detailed description of the DSS and its operation appears in CRL Scientific Report No. 9 (March 1978). In October 1977 the surveillance area was reduced from 233 to 149 villages and a Maternal Child Health and Family Planning (MCH-FP) Program was begun in 70 villages. The remaining 79 villages were treated as a Comparison area (Figure 1.2). These changes are described in detail in the ICDDR,B Scientific Report No. 47 (May 1981). Due to river erosion 7 villages have disappeared from Comparison area since 1987, so that there are now 142 villages left.

This is the twenty-eighth volume of a series of scientific reports of the Demographic Surveillance System produced by the ICDDR,B. Presented here are results obtained from the Matlab DSS in 1996, along with brief notes and explanations of the tables.

Figure 1.1: Map of Bangladesh Showing the Study Area

Figure 1.2 Matlab Area Showing Villages of Demographic Surveillance System



CHAPTER 2

POPULATION CHANGES

Table 2.1 summarizes the principal vital statistics of the MCH-FP and Comparison areas from 1985 through 1996 and the basic 1996 figures by sex are shown in Table 2.2. The 1996 fertility rate declined compared to the preceding year in the MCH-FP area, with a total fertility rate (TFR) of 2.7 and a crude birth rate (CBR) of 22.4 per 1,000 population. In the Comparison area the TFR fell from 3.6 to 3.5 and the crude birth rate from 27.8 to 26.7 per 1,000. The trends in the total fertility rate in both areas are illustrated in Figure 2.1(a).

Other key figures for 1996 including by sex are shown in Table 2.2. A substantial difference with 1995 is the decline in the number of births (5,180 in 1996 versus 5,540 in 1995). The decline was especially large for male births. This means that the sex ratio at birth has changed: it was 101.0 in 1996 versus 107.6 in 1995.

The infant mortality increased in the MCH-FP area, from 51.1 in 1995 to 66.2 in 1996. This increase was the result of increases in both the neonatal mortality and the post-neonatal mortality rate. In the Comparison area infant mortality decreased from 78.6 to 67.0 per 1,000 from 1995 to 1996. On the other hand, child mortality between 1 and 4 years of age decreased in both areas. The results of these changes was that under-five mortality increased in the MCH-FP area and decreased in the Comparison area. The trends in under-five mortality are illustrated in Figure 2.1(b).

In 1996 in-migration rate decreased slightly to a level of 25.1 and the out-migration rate also decreased to a level of 35.0 per 1,000, leaving a net out migration of 9.9 per 1,000, thus largely offsetting the rate of natural increase, which amounted to 16.8 per 1,000 population. The overall rate of population growth was reduced to 0.7 percent per annum.

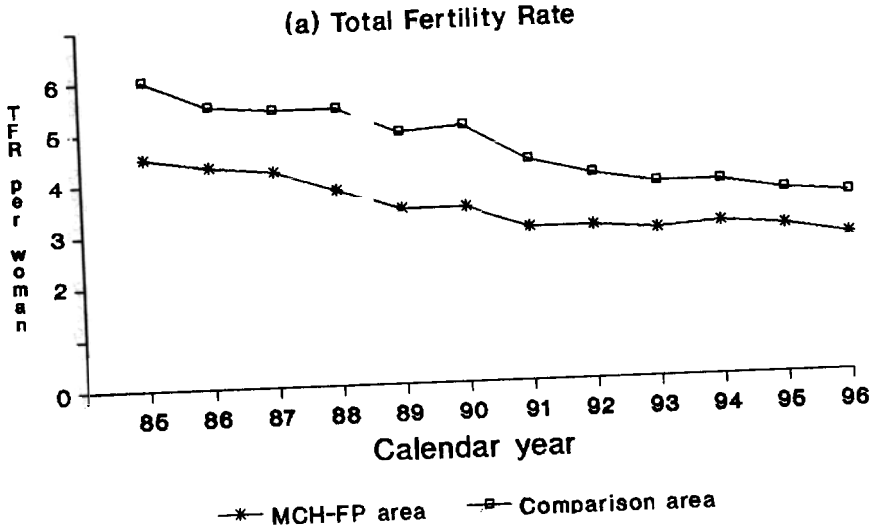
Tables 2.3, 2.4, and 2.5 show the age and sex distributions for the whole study area, the MCH-FP and Comparison areas, and for the four blocks of the MCH-FP area. The age-sex distribution for the study area is illustrated by the population pyramid shown in Figure 2.2. The decline in fertility in the MCH-FP area in the period 1978-1996 has caused a significant change in the age structure of the population. Children under 15 years of age constituted 43.4 percent of the population in the MCH-FP area at the beginning of the MCH-FP project in 1978; by 1996 this proportion had fallen to 36.4 percent. In the Comparison area, on the other hand, the proportion under 15 showed only much less change, from 43.3 percent in 1978 to 40.5 percent in 1996.

Table 2.1: Vital Statistics of the Matlab MCH-FP and Comparison Areas, 1985-1996

Vital rates (per 1000)	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
Crude birth rate												
MCH-FP area	34.6	33.6	33.6	30.9	28.4	28.3	25.4	25.4	24.7	25.9	25.2	22.4
Comparison area	42.6	39.6	39.2	40.4	36.6	37.8	32.7	31.1	29.4	29.4	27.8	26.7
Both areas	38.5	36.5	36.4	35.5	32.4	32.9	29.0	28.2	27.0	27.6	26.5	24.5
Total fertility rate**												
MCH-FP area	4.5	4.3	4.2	3.8	3.4	3.4	3.0	3.0	2.9	3.0	2.9	2.7
Comparison area	6.0	5.5	5.4	5.4	4.9	5.0	4.3	4.0	3.8	3.8	3.6	3.5
Both areas	5.2	4.9	4.8	4.5	4.1	4.1	3.6	3.5	3.3	3.4	3.2	3.0
Crude death rate												
MCH-FP area	10.2	9.9	9.3	8.7	8.0	7.6	8.1	8.3	7.7	8.0	7.3	7.6
Comparison area	14.2	12.2	11.2	11.0	9.5	9.4	10.2	9.8	10.2	9.2	8.4	7.9
Both areas	12.2	11.0	10.2	9.9	8.7	8.5	9.1	9.0	8.9	8.6	7.9	7.7
Neonatal mortality*												
MCH-FP area	52.5	45.4	43.8	42.8	46.0	47.8	47.7	49.6	42.8	36.4	30.6	39.5
Comparison area	69.4	53.0	54.9	57.7	52.7	53.3	63.2	53.3	64.5	56.4	50.3	42.1
Both areas	61.7	49.4	49.7	51.1	49.7	50.9	56.3	51.6	54.4	46.9	40.8	40.9
Post-neonatal mortality*												
MCH-FP area	33.8	36.4	34.6	38.0	28.3	27.4	32.3	30.8	20.3	27.3	20.6	26.6
Comparison area	49.1	39.7	39.5	39.0	38.0	34.1	51.7	37.0	34.8	30.8	28.3	24.8
Both areas	42.1	38.2	37.2	38.6	33.6	31.2	43.0	34.1	28.0	29.2	24.6	25.7
Infant mortality*												
MCH-FP area	86.4	81.8	78.4	80.8	74.3	75.2	80.0	80.5	63.1	63.7	51.1	66.2
Comparison area	118.4	92.7	94.4	96.6	90.7	87.5	114.9	90.2	99.3	87.2	78.6	67.0
Both areas	103.8	87.6	86.9	89.6	83.3	82.1	99.2	85.7	82.4	76.0	65.3	66.6
Child mortality (1-4 yrs)												
MCH-FP area	16.4	13.4	9.9	7.6	6.4	5.3	7.0	5.9	5.9	5.3	6.7	6.0
Comparison area	24.6	20.7	15.0	14.4	11.5	9.3	9.1	10.4	10.0	7.0	8.4	8.0
Both areas	20.7	17.2	12.6	11.1	9.0	7.4	8.1	8.3	8.1	6.2	7.6	7.1
Under five mortality***												
MCH-FP area	143.9	129.8	113.1	107.4	97.5	94.8	105.7	102.0	86.1	83.6	76.7	87.9
Comparison area	200.1	164.0	145.2	146.1	131.1	120.4	146.2	127.1	135.1	113.1	109.5	96.4
Both areas	174.4	148.0	130.2	128.3	115.7	108.7	128.1	115.7	112.5	99.1	93.8	92.3
Rate of natural increase												
MCH-FP area	24.4	23.7	24.3	22.1	20.4	20.7	17.3	17.1	17.0	17.9	17.9	14.8
Comparison area	28.4	27.4	28.0	29.4	27.1	28.4	22.5	21.2	19.2	20.2	19.4	18.8
Both areas	26.3	25.5	26.1	25.7	23.6	24.4	19.9	19.1	18.1	19.1	18.6	16.8
In-migration	23.9	28.3	33.6	26.5	29.3	26.0	26.9	33.6	25.5	26.5	27.0	25.1
Out-migration	42.1	41.7	44.3	41.5	43.9	42.4	41.9	48.5	36.1	41.4	37.4	35.0
Growth (%)	0.8	1.2	1.5	1.1	0.9	0.8	0.5	0.4	0.8	0.4	0.8	0.7

*Per 1000 live births.
**Per woman.
***Calculated from life table.

Figure 2.1 Trends in Fertility and Under Five Mortality by Area, in 1985-1996



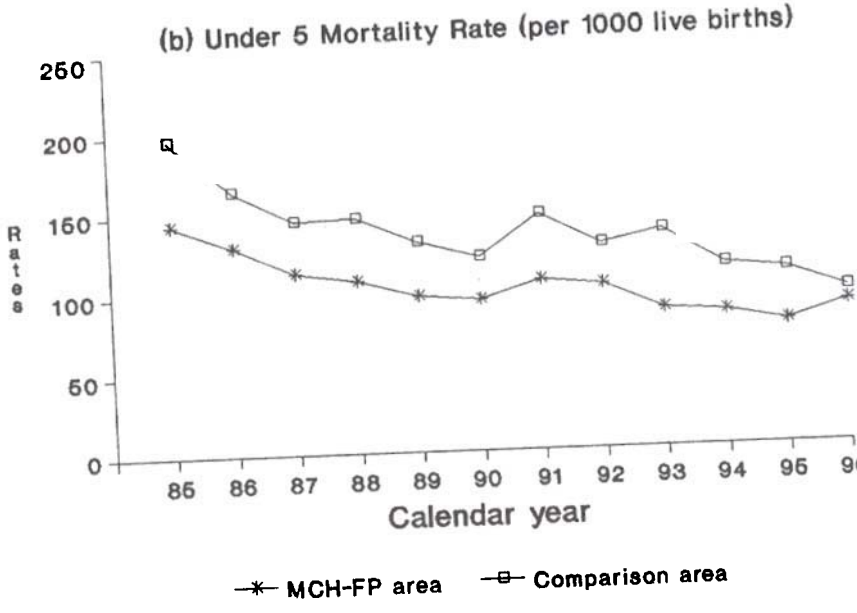


Table 2.2: Mid-year Population, Events Registered, and Population Changes in 1996

	Number			Rate per 1000		
	Total	Males	Females	Total	Males	Females
Total population as of 30 June 1996:						
MCH-FP area	107231	52863	54368			
Comparison area	104075	51453	52622			
Both areas	211306	104316	106990			
Events registered (Jan - Dec. 1996)						
Births						
MCH-FP area	2403	1179	1224	22.4		
Comparison area	2777	1424	1353	26.7		
Both areas	5180	2603	2577	24.5		
Deaths						
-Infant*						
MCH-FP area	159	80	79	66.2	67.9	64.5
Comparison area	186	106	80	67.0	74.4	59.1
Both areas	345	186	159	66.6	71.5	61.7
All deaths						
MCH-FP area	814	436	378	7.6	8.2	7.0
Comparison area	817	419	398	7.9	8.1	7.6
Both areas	1631	855	776	7.7	8.2	7.3
In-migration	5307	2325	2982	25.1	22.3	27.9
Out-migration	7404	3874	3530	35.0	37.1	33.0
Marriage	2723	-		12.9	-	
Divorce**	334	-		122.7		
Population change (Jan - Dec. 1996)						
Net migration	2097	-1549	-548	-9.9	-14.8	-5.1
Natural increase						
MCH-FP area	1589	743	846	14.8	14.1	15.6
Comparison area	1960	1005	955	18.8	19.5	18.1
Both areas	3549	1748	1801	16.8	16.8	16.8
Net increase	1452	199	1253	6.9	1.9	11.7

*Rate per 1000 live births
**Rate per 1000 marriages.

Table 2.3: Mid-year Population by Age and Sex, 1996

Age (years)	Number			Percent		
	Both sexes	Males	Females	Both sexes	Males	Females
All ages	211306	104316	106990	100.0	100.0	100.0
Under 1	5030	2530	2500	2.4	2.4	2.3
1 4	20396	10327	10069	9.7	9.9	9.4
	5232	2672	2560	2.5	2.6	2.4
	5119	2548	2571	2.4	2.4	2.4
3	5221	2661	2560	2.5	2.6	2.4
4	4824	2446	2378	2.3	2.3	2.2
5 9	28830	14485	14345	13.6	13.9	13.4
10-14	26888	13948	12940	12.7	13.4	12.1
15-19	23205	12372	10833	11.0	11.9	10.1
20-24	17372	8476	8896	8.2	8.1	8.3
25-29	15393	6738	8655	7.3	6.5	8.1
30-34	14796	6524	8272	7.0	6.3	7.7
35-39	13003	6500	6503	6.2	6.2	6.1
40-44	9220	4588	4632	4.4	4.4	4.3
45-49	7403	3435	3968	3.5	3.3	3.7
50-54	7873	3425	4448	3.7	3.3	4.2
55-59	6496	3081	3415	3.1	3.0	3.2
60-64	6055	2996	3059	2.9	2.9	2.9
65-69	3889	1987	1902	1.8	1.9	1.8
70-74	2782	1466	1316	1.3	1.4	1.2
75-79	1451	763	688	0.7	0.7	0.6
80-84	802	433	369	0.4	0.4	0.3
85+	422	242	180	0.2	0.2	0.2

Table 2.4: Mid-year Population by Area, Age, and Sex, 1996

Age (years)	MCH-FP area			Comparison area		
	Both sexes	Males	Females	Both sexes	Males	Females
All ages	107231/	52863	54368	104075/	51453	52622
Under 1	2457	1211	1246	2573	1319	1254
1 - 4	9772	4929	4843	10624	5398	5226
1	2594	1313	1281	2638	1359	1279
2	2486	1241	1245	2633	1307	1326
3	2482	1272	1210	2739	1389	1350
4	2210	1103	1107	2614	1343	1271
5 - 9	13555	6862	6693	15275	7623	7652
10-14	13204	6768	6436	13684	7180	6504
15-19	11681	6258	5423	11524	6114	5410
20-24	9360	4580	4780	8012	3896	4116
25-29	8118	3579	4539	7275	3159	4116
30-34	7876	3410	4466	6920	3114	3806
35-39	6815	3406	3409	6188	3094	3094
40-44	4902	2458	2444	4318	2130	2188
45-49	3896	1800	2096	3507	1635	1872
50-54	4189	1843	2346	3684	1582	2102
55-59	3371	1593	1778	3125	1488	1637
60-64	3088	1550	1538	2967	1446	1521
65-69	2048	1066	982	1841	921	920
70-74	1490	787	703	1292	679	613
75-79	736	388	348	715	375	340
80-84	444	245	199	358	188	170
85+	229	130	99	193	112	81

Table 2.5: Mid-year Population in MCH-FP Area by Age, Sex, and Block, 1996

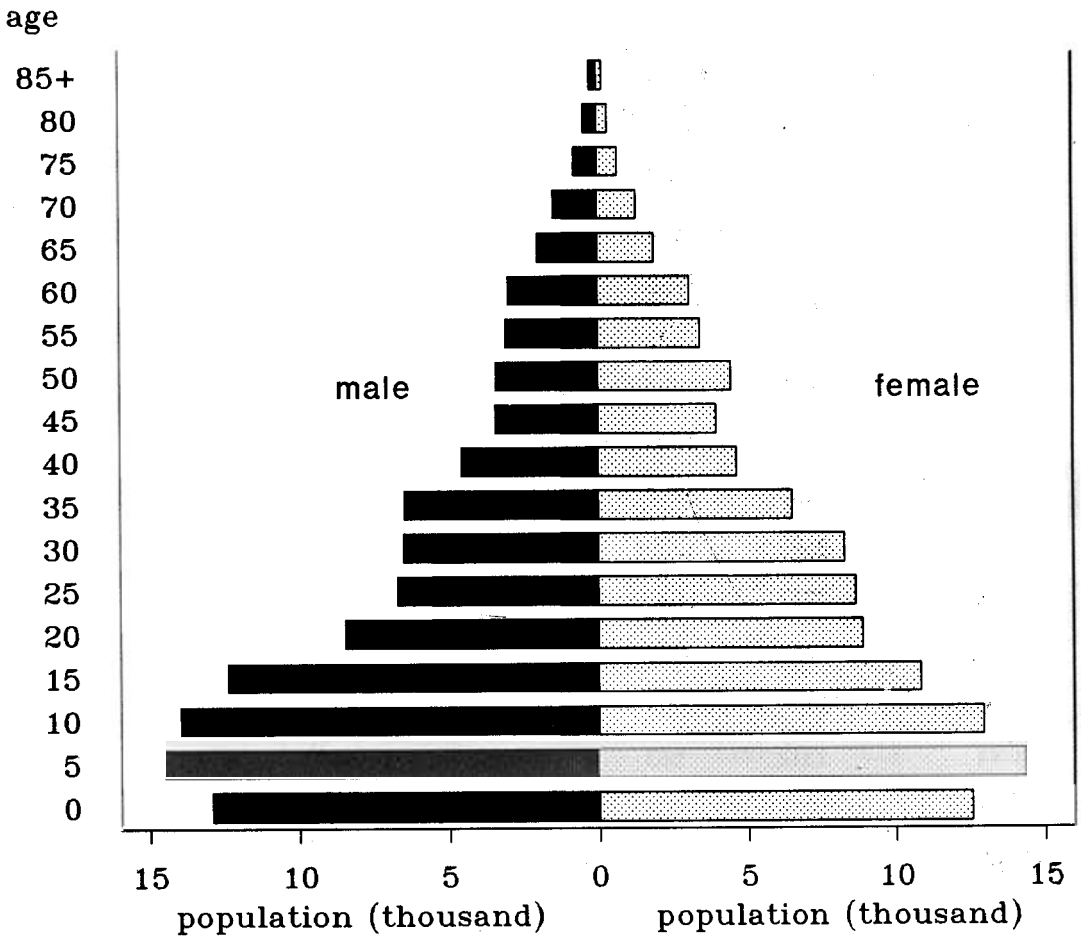
Age (years)	Block A			Block B		
	Both sexes	Males	Females	Both sexes	Males	Females
All ages	30396	14884	15512	26735	13046	13689
Under 1	713	360	353	640	315	325
1 4	2861	1410	1451	2544	1295	1249
1	783	380	403	685	353	332
2	699	349	350	673	336	337
3	713	364	349	630	320	310
4	666	317	349	556	286	270
5 - 9	3960	2005	1955	3523	1784	1739
10-14	3787	1950	1837	3418	1756	1662
15-19	3259	1691	1568	2867	1502	1365
20-24	2587	1227	1360	2245	1101	1144
25-29	2325	1002	1323	1923	829	1094
30-34	2350	970	1380	1874	786	1088
35-39	1940	986	954	1596	778	818
40-44	1375	689	686	1161	539	622
45-49	1115	527	588	973	437	536
50-54	1173	518	655	988	411	577
55-59	878	465	413	858	390	468
60-64	762	393	369	786	380	406
65-69	533	280	253	553	288	265
70-74	385	209	176	400	216	184
75-79	185	92	93	185	112	73
80-84	133	68	65	126	78	48
85+	75	42	33	75	49	26

(continued)

Table 2.5 (cont.): Mid-year Population in MCH-FP Area by Age, Sex, and Block, 1996

Age (years)	Block C			Block D		
	Both sexes	Males	Females	Both sexes	Males	Females
All ages	27924	14000	13924	22176	10933	11243
Under 1	610	307	303	494	229	265
1 - 4	2426	1234	1192	1941	990	951
1	631	321	310	495	259	236
2	613	295	318	501	261	240
3	626	320	306	513	268	245
4	556	298	258	432	202	230
5 - 9	3345	1691	1654	2727	1382	1345
10-14	3358	1749	1609	2641	1313	1328
15-19	3193	1754	1439	2362	1311	1051
20-24	2600	1325	1275	1928	927	1001
25-29	2247	1030	1217	1623	718	905
30-34	1967	887	1080	1685	767	918
35-39	1799	904	895	1480	738	742
40-44	1312	663	649	1054	567	487
45-49	1023	482	541	785	354	431
50-54	1121	509	612	907	405	502
55-59	871	407	464	764	331	433
60-64	846	439	407	694	338	356
65-69	492	266	226	470	232	238
70-74	368	182	186	337	180	157
75-79	199	96	103	167	88	79
80-84	105	56	49	80	43	37
85+	42	19	23	37	20	17

Figure 2.2: Age Pyramid of the 1996 Mid-year Population



CHAPTER 3

MORTALITY

Tables 3.1 to 3.3 show the distribution of deaths by sex and age for the whole study area, for the MCH-FP and Comparison areas, and for the four blocks of the MCH-FP area. Tables 3.4 and 3.5 show the corresponding age-sex-specific mortality rates for the study area, and for the MCH-FP and Comparison areas. Tables 3.6 to 3.10 show the abridged life tables derived from these rates.

As already noted in chapter 2, a conspicuous feature of the 1996 results was the increase in infant mortality in the MCH-FP area, where it rose from 51.1 in 1995 to 66.3 in 1996. This was the result of increases in both neonatal and post-neonatal mortality.

In the Comparison area a significant fall in infant mortality occurred in 1996. In 1996 mortality of children aged 1-4 years dropped in both areas in comparison with the previous year.

Table 3.6 and 3.7 show the basic life table parameters; the lx values are plotted in figure 3.1. The expectation of life at birth was 64.0 years for males and 65.4 for female (Table 3.7). It was also higher in the MCH-FP area (65.0) than in the Comparison area (64.4) (Table 3.8). The difference in the expectation of life between the two areas was more pronounced for females (1.4) than for males which was almost equal in both areas (Table 3.9 and 3.10). The expectation of life at birth slightly increased as a whole compared to 1995, although it declined slightly in the MCH-FP area but increased in the Comparison area. This increase in the life expectancy was, therefore, the result of the compensating trends in both areas and for both sexes.

The level of adult mortality decreased in 1996 in comparison with 1995, as can be derived from the finding that the probability of dying between the ages of 15 and 60 ($_{45}q_{15}$) decreased from 181 per thousand in 1995 to 156 in 1996. There were compensating movements between the two areas and between the sexes. This comparison between 1995 and 1996 should not lose sight of the difference between male and female adult mortality in both areas with higher male than female mortality in most age groups between 15 and 60 years old.

Table 3.11 and Figure 4.1 show the distribution of deaths by age and month of occurrence. Deaths of 5 years and older ages tend to peak in the winter months. Neonatal deaths were most frequent in September through December, doubtless reflecting the seasonal variation in births, described in Chapter 4. Post-neonatal deaths on the other hand generally tend to be distributed fairly regular throughout the year.

Tables 3.12 to 3.15 show the distribution of deaths by age, sex, area and cause, and Table 3.16 gives the age-standardized mortality rates by cause of death, using the W.H.O. "World Standard" age distribution shown in Appendix-D (WHO 1992).

The age-standardised mortality rates by cause of death in Table 3.16, when compared with the corresponding table for 1995, shows that the rate for cardio-vascular diseases increased in both areas and for both sexes. In the MCH-FP area there were increases for males for cardio-vascular diseases, ARI, and chronic obstructive pulmonary (COPD) disease and for females dysentery, malignant neoplasms, nutritional, and cardio-vascular disease. On the other hand there were decreases in the MCH-FP area for males in diarrhoea, malignant neoplasms and senility and for females in COPD, accidents and senility. This last term tells us little and can in fact be regarded as a residual category of ill defined causes of death among old people. In the Comparison area decreases for males took place in diarrhoea and other neonatal causes; and for females this was the case for dysentery, malignant neoplasms, nutritional disease, COPD and drowning. There were also increases in the rates for males such as cardio-vascular disease and for females in cardio-vascular diseases and senility.

A striking feature of Table 3.16 as well as Tables 3.12-3.15 is the large number of deaths classified in the older age groups under senility, other causes of death (not elsewhere classified) and unknown. It means that the quality of cause of death data in these age groups is unsatisfactory. Plans are currently formulated to change procedure on classification of causes of death. The percentage of deaths in the age groups below 5 classified as other causes and unknown is in general small indicating that the quality of data on causes of death in these age groups is better.

A comparison of trends in life expectancy at birth in 1996 and other recent years with the age-standardised mortality rates shows that they do not always run parallel as one would expect. For the reason for this the reader is referred to the explanation provided in chapter 3 of the 1993 DSS Annual Report.

Table 3.1: Deaths by Age and Sex, 1996

Age	Both sexes	Males	Females
All ages	1631	855	776
Under 1 year	345	186	159
Under 1 month	212	121	91
1-5 months	99	50	49
6-11 months	34	15	19
1 - 4 year	144	69	75
1	68	32	36
2	41	19	22
3	24	11	13
4	11	7	4
5 - 9	37	16	21
10-14	24	15	9
15-19	25	17	8
20-24	34	15	19
25-29	20	9	11
30-34	28	11	17
35-39	35	15	20
40-44	34	21	13
45-49	28	14	14
50-54	45	25	20
55-59	84	48	36
60-64	136	82	54
65-69	147	78	69
70-74	170	93	77
75-79	119	55	64
80-84	99	41	58
85+	77	45	32

Table 3.2: Deaths by Area, Age, and Sex, 1996

Age	MCH-FP area			Comparison area		
	Both sexes	Males	Females	Both sexes	Males	Females
All ages	814	436	378	817	419	398
Under 1 year	159	80	79	186	106	80
Under 1 month	95	55	40	117	66	51
1-5 months	47	18	29	52	32	20
6-11 months	17	7	10	17	8	9
1 - 4 years	59	28	31	85	41	44
1	27	15	12	41	17	24
2	20	8	12	21	11	10
3	7	2	5	17	9	8
4	5	3	2	6	4	2
5 - 9	20	10	10	17	6	11
10-14	9	5	4	15	10	5
15-19	15	10	5	10	7	3
20-24	20	9	11	14	6	8
25-29	12	7	5	8	2	6
30-34	13	5	8	15	6	9
35-39	17	8	9	18	7	11
40-44	19	10	9	15	11	4
45-49	14	10	4	14	4	10
50-54	24	13	11	21	12	9
55-59	43	26	17	41	22	19
60-64	72	42	30	64	40	24
65-69	81	48	33	66	30	36
70-74	94	54	40	76	39	37
75-79	58	28	30	61	27	34
80-84	48	21	27	51	20	31
85+	37	22	15	40	23	17

Table 3.3: Deaths in MCH-FP Area by Age, Sex, and Block, 1996

Age	Block A			Block B		
	Both sexes	Males	Females	Both sexes	Males	Females
All ages	210	110	100	204	115	89
Under 1 year	45	25	20	40	23	17
Under 1 month	33	20	13	20	13	7
1-5 months	7	3	4	15	6	9
6-11 months	5	2	3	5	4	1
1 - 4 years	13	4	9	19	8	11
1	4	2	2	9	5	4
2	7	2	5	6	2	4
3	1	0	1	3	1	2
4	1	0	1	1	0	1
5 - 9	5	1	4	6	5	1
10-14	2	2	0	5	2	3
15-19	4	3	1	3	2	1
20-24	4	0	4	7	4	3
25-29	4	0	4	5	5	0
30-34	7	3	4	2	0	2
35-39	4	1	3	6	4	2
40-44	3	1	2	2	1	1
45-49	5	4	1	3	2	1
50-54	8	4	4	7	3	4
55-59	7	5	2	7	3	4
60-64	13	11	2	20	9	11
65-69	18	9	9	18	10	8
70-74	30	16	14	18	12	6
75-79	13	6	7	18	12	6
80-84	12	6	6	10	5	5
85+	13	9	4	8	5	3

(continued)

Table 3.3 (cont.): Deaths in MCH-FP Area by Age, Sex, and Block, 1996

Age	Block C			Block D		
	Both sexes	Males	Females	Both sexes	Males	Females
All ages	208	112	96	192	99	93
Under 1 year	38	14	24	36	18	18
Under 1 month	20	9	11	22	13	9
1-5 months	15	5	10	10	4	6
6-11 months	3	0	3	4	1	3
1 - 4 years	12	8	4	15	8	7
1	5	3	2	9	5	4
2	2	1	1	5	3	2
3	2	1	1	1	0	1
4	3	3	0	0	0	0
5 - 9	5	4	1	4	0	4
10-14	1	1	0	1	0	1
15-19	1	1	0	7	4	3
20-24	5	2	3	4	3	1
25-29	1	1	0	2	1	1
30-34	1	0	1	3	2	1
35-39	3	2	1	4	1	3
40-44	10	7	3	4	1	3
45-49	1	0	1	5	4	1
50-54	5	3	2	4	3	1
55-59	17	11	6	12	7	5
60-64	19	12	7	20	10	10
65-69	28	18	10	17	11	6
70-74	27	16	11	19	10	9
75-79	11	1	10	16	9	7
80-84	14	5	9	12	5	7
85+	9	6	3	7	2	5

Table 3.4: Death Rates by Age and Sex, 1996
(per 1000 population)

Age	Both sexes	Males	Females
All ages	7.7	8.2	7.3
Under 1 year*	66.6	71.5	61.7
Under 1 month*	40.9	46.5	35.3
1-5 months*	19.1	19.2	19.0
6-11 months*	6.6	5.8	7.4
1 - 4 years	7.1	6.7	7.4
1	13.0	12.0	14.1
2	8.0	7.5	8.6
3	4.6	4.1	5.1
4	2.3	2.9	1.7
5 - 9	1.3	1.1	1.5
10-14	0.9	1.1	0.7
15-19	1.1	1.4	0.7
20-24	2.0	1.8	2.1
25-29	1.3	1.3	1.3
30-34	1.9	1.7	2.1
35-39	2.7	2.3	3.1
40-44	3.7	4.6	2.8
45-49	3.8	4.1	3.5
50-54	5.7	7.3	4.5
55-59	12.9	15.6	10.5
60-64	22.5	27.4	17.7
65-69	37.8	39.3	36.3
70-74	61.1	63.4	58.5
75-79	82.0	72.1	93.0
80-84	123.4	94.7	157.2
85+	182.5	196.0	177.8

*Rate per 1000 live births.

Table 3.5: Death Rates by Area, Age, and Sex 1996
(per 1000 population)

Age	MCH-FP area			Comparison area		
	Both sexes	Males	Females	Both sexes	Males	Females
All ages	7.6	8.2	7.0	7.9	8.1	7.6
Under 1 year*	66.2	67.9	64.5	67.0	74.4	59.1
Under 1 month*	39.5	46.6	32.7	42.1	46.3	37.7
1-5 months*	19.6	15.3	23.7	18.7	22.5	14.8
6-11 months*	7.1	5.9	8.2	6.1	5.6	6.7
1 4 years	6.0	5.7	6.4	8.0	7.6	8.4
1	10.4	11.4	9.4	15.5	12.5	18.8
2	8.0	6.4	9.6	8.0	8.4	7.5
3	2.8	1.6	4.1	6.2	6.5	5.9
4	2.3	2.7	1.8	2.3	3.0	1.6
5 9	1.5	1.5	1.5	1.1	0.8	1.4
10-14	0.7	0.7	0.6	1.1	1.4	0.8
15-19	1.3	1.6	0.9	0.9	1.1	0.6
20-24	2.1	2.0	2.3	1.7	1.5	
25-29	1.5	2.0	1.1	1.1	0.6	1.5
30-34	1.7	1.5	1.8	2.2	1.9	2.4
35-39	2.5	2.3	2.6	2.9	2.3	3.6
40-44	3.9	4.1	3.7	3.5	5.2	1.8
45-49	3.6	5.6	1.9	4.0	2.4	5.3
50-54	5.7	7.1	4.7	5.7	7.6	4.3
55-59	12.8	16.3	9.6	13.1	14.8	11.6
60-64	23.3	27.1	19.5	21.6	27.7	15.8
65-69	39.6	45.0	33.6	35.9	32.6	39.1
70-74	63.1	68.6	56.9	58.8	57.4	60.4
75-79	78.8	72.2	86.2	85.3	72.0	100.0
80-84	108.1	85.7	135.7	142.5	106.4	182.4
85+	161.6	169.2	151.5	207.3	205.4	209.9

*Rate per 1000 live births

Table 3.6: Abridged Life Table, 1996

Age (years)	${}_nq_x$	l_x	L_x	e^0
0	66.6	100000	95178	64.7
1	12.9	93340	92629	68.3
2	8.0	92134	91767	68.2
3	4.6	91399	91190	67.7
4	2.3	90980	90877	67.0
5	6.4	90773	452526	66.2
10	4.5	90192	450035	61.6
15	5.4	89790	447840	56.8
20	9.7	89308	444533	52.1
25	6.5	88438	440869	47.6
30	9.4	87865	437417	42.9
35	13.4	87037	432500	38.3
40	18.3	85873	425740	33.8
45	18.7	84303	417865	29.4
50	28.2	82723	408215	24.9
55	62.8	80389	390196	20.5
60	106.7	75344	357840	16.7
65	173.4	67306	308747	13.4
70	266.0	55636	242222	10.7
75	340.9	40835	169747	8.6
80	469.0	26913	102261	6.7
85+	1000.0	14290	78317	5.5

Figure 3.1: Probability of Survival from Birth to Age (x) by Sex, 1996

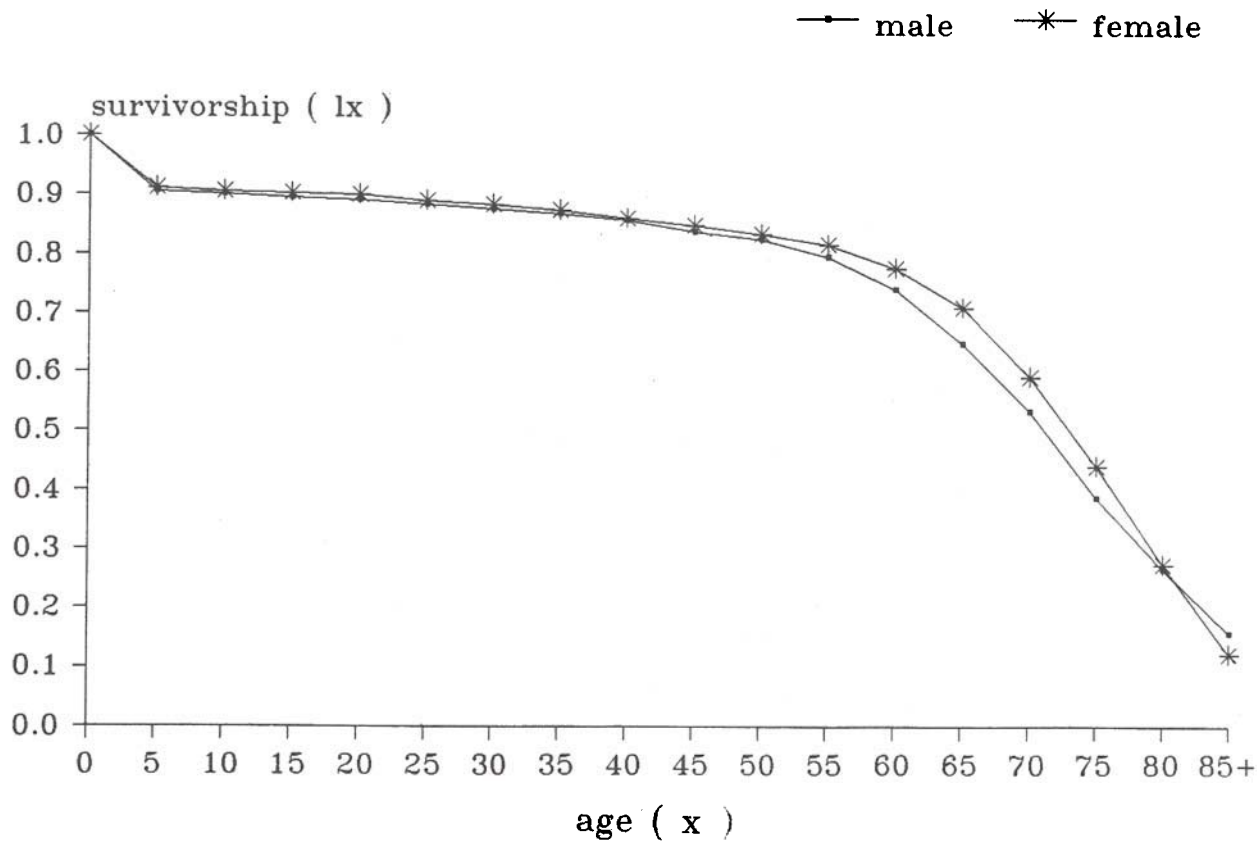


Table 3.7: Abridged Life Tables by Sex, 1996

Age (years)	Males				Females			
	$_nq_x$	l_x	L_x	e^0	$_nq_x$	l_x	L_x	e^0
0	71.5	100000	94827	64.0	61.7	100000	95533	65.4
1	11.9	92854	92202	67.9	14.0	93830	93057	68.7
2	7.4	91749	91408	67.7	8.5	92520	92125	68.6
3	4.1	91067	90879	67.2	5.1	91731	91499	68.2
4	2.9	90692	90562	66.5	1.7	91267	91190	67.6
5	5.5	90432	451014	65.6	7.3	91113	454034	66.7
10	5.4	89934	448559	61.0	3.5	90449	451519	62.1
15	6.8	89452	445847	56.3	3.7	90135	449907	57.3
20	8.8	88839	442391	51.7	10.6	89802	446810	52.6
25	6.7	88056	438930	47.1	6.3	88848	442942	48.1
30	8.4	87470	435656	42.4	10.2	88285	439343	43.4
35	11.5	86735	431381	37.7	15.3	87382	433830	38.8
40	22.6	85740	424211	33.2	13.9	86048	427470	34.4
45	20.2	83798	415082	28.9	17.5	84848	420812	29.8
50	35.9	82107	403704	24.4	22.3	83363	412530	25.3
55	75.2	79160	381909	20.2	51.4	81509	397797	20.8
60	128.5	73210	343848	16.6	84.8	77315	371247	16.8
65	179.5	63799	291697	13.7	167.0	70761	325713	13.1
70	274.8	52348	226729	11.1	256.2	58945	258118	10.2
75	306.3	37965	161310	9.4	377.5	43843	177908	7.8
80	382.8	26337	106485	7.4	556.1	27293	96557	6.0
85+	1000.0	16254	87412	5.4	851000.0	12116	68153	5.6

Table 3.8: Abridged Life Tables by Area, 1996

Age (years)	MCH-FP area				Comparison area			
	$_nq_x$	l_x	L_x	e^0	$_nq_x$	l_x	L_x	e^0
0		100000		65.0		100000	95151	64.4
1	10.4	93383	92813	68.6	15.4	93302	92453	68.0
2	8.0	92416	92046	68.3	7.9	91863	91498	68.0
3	2.8	91676	91547	67.9	6.2	91133	90851	67.6
4	2.3	91417	91314	67.1	2.3	90569	90466	67.0
5	7.4	91211	454509	66.2	5.6	90362	450653	66.1
10	3.4	90540	451992	61.7	5.5	89860	448169	61.5
15	6.4	90232	449830	56.9	4.3	89369	445953	56.8
20	10.6	89655	446074	52.3	8.7	88982	443124	52.1
25	7.4	88701	442001	47.8	5.5	88208	439923	47.5
30	8.2	88048	438571	43.1	10.8	87724	436437	42.7
35	12.4	87324	434122	38.5	14.4	86778	430995	38
40	19.2	86241	427379	33.9	17.2	85524	424217	33.7
45	17.8	84585	419442	29.5	19.8	84050	416412	29.2
50	28.3	83077	409952	25.0	28.1	82388	406578	24.8
55	61.9	80729	392000	20.6	63.7	80070	388480	20.4
60	110.5	75728	358968	16.8	102.7	74974	356804	16.6
65	180.7	67359	307769	13.6	165.2	67277	309974	13.2
70	273.5	55186	239207	11.0	257.4	56165	245770	10.3
75	329.9	40095	167854	9.2	352.1	41708	172122	8.0
80	424.5	26868	105511	7.5	519.8	27023	98607	6.0
85+	1000.0	15461	95692	6.2	1000.0	12976	62607	4.8

Table 3.9: Abridged Life Tables for MCH-FP Area by Sex, 1996

Age (years)	Males				Females			
	$_nq_x$	l_x	L_x	e^0	$_nq_x$	l_x	L_x	e^0
0	67.9	100000	95087	64.0	64.5	100000	95327	66.1
1	11.4	93215	92590	67.6	9.3	93546	93031	69.6
2	6.4	92156	91860	67.4	9.6	92673	92229	69.3
3	1.6	91563	91492	66.8	4.1	91784	91595	68.9
4	2.7	91420	91295	65.9	1.8	91406	91323	68.2
5	7.3	91171	454330	65.1	7.4	91241	454639	67.3
10	3.7	90509	451777	60.6	3.1	90562	452161	62.8
15	8.0	90175	449222	55.8	4.6	90281	450446	58.0
20	9.8	89458	445270	51.2	11.4	89865	446954	53.3
25	9.7	88583	440924	46.7	5.5	88837	443059	48.8
30	7.3	87720	437124	42.1	8.9	88349	439927	44.1
35	11.7	87079	433050	37.4	13.1	87561	435152	39.5
40	20.2	86062	426303	32.8	18.3	86412	428415	35.0
45	27.4	84328	416288	28.4	9.5	84834	422313	30.6
50	34.7	82015	403482	24.2	23.2	84028	415636	25.8
55	78.6	79169	381307	19.9	46.8	82079	401484	21.4
60	127.3	72946	342819	16.4	93.3	78241	374108	17.3
65	203.2	63656	287288	13.4	155.6	70943	328529	13.8
70	293.8	50720	217168	11.2	250.1	59903	263258	10.9
75	306.6	35819	152166	9.8	355.1	44924	185035	8.6
80	353.4	24838	102415	7.9	502.3	28973	107252	7.0
85+	1000.0	16060	94899	5.9	1000.0	14421	95179	6.6

Table 3.10: Abridged Life Tables for Comparison Area by Sex, 1996

Age (years)	Males				Females			
	$_nq_x$	l_x	L_x	e^0	$_nq_x$	l_x	L_x	e^0
0	74.4	100000	94611	64.1	59.1	100000	95719	64.7
1	12.4	92556	91877	68.2	18.6	94087	93055	67.8
2	8.4	91405	91022	68.1	7.5	92338	91991	68.0
3	6.5	90639	90347	67.6	5.9	91644	91373	67.5
4	3.0	90054	89920	67.1	1.6	91103	91031	66.9
5	3.9	89786	448118	66.3	7.2	90959	453295	66.0
10	6.9	89433	445736	61.5	3.8	90308	450741	61.5
15	5.7	88813	442894	56.9	2.8	89961	449232	56.7
20	7.7	88306	439966	52.2	9.7	89712	446559	51.9
25	3.2	87628	437502	47.6	7.3	88844	442733	47.4
30	9.6	87351	434823	42.8	11.8	88199	438601	42.7
35	11.3	86513	430320	38.1	17.6	87162	432259	38.2
40	25.5	85540	422650	33.6	9.1	85625	426327	33.8
45	12.2	83357	414445	29.4	26.4	84845	419049	29.1
50	37.3	82343	404601	24.7	21.2	82607	408988	24.8
55	71.5	79274	383154	20.5	56.5	80856	393650	20.3
60	129.8	73609	345493	16.9	76.1	76287	367880	16.3
65	151.2	64052	297308	14.0	179.0	70482	322345	12.5
70	252.1	54368	238643	11.1	263.2	57869	252361	9.6
75	306.0	40660	172795	8.9	399.7	42636	170403	7.1
80	419.3	28219	111232	6.8	612.3	25596	85946	5.2
85+	1000.0	16386	79793	4.9	1000.0	9923	47282	4.8

Table 3.11: Deaths by Age and Month, 1996

Month	All ages	Age at death			
		Under 1 month	1-11 months	1-4 years	5 years and over
January	162	13	15	6	128
February	139	17	10	10	102
March	109	16	8	10	75
April	117	10	21	10	76
May	121	8	14	11	88
June	105	8	7	14	76
July	111	11	9	16	75
August	136	20	16	22	78
September	168	26	6	11	125
October	142	26	10	15	91
November	151	25	10	9	107
December	170	32	7	10	121
Total	1631	212	133	144	1142

Table 3.12: Male Deaths by Cause and Age, 1996

Cause	All ages	Age at death (years)																		
		<1	1-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75-79	80-84	85+
DIARRHOEAL																				
Diarrhoea	57	22	9	1	1	0	1	0	0	0	0	0	0	3	1	4	7	2	1	5
Dysentery	20	0	7	2	1	0	0	0	0	0	0	0	0	1	0	1	1	3	2	2
INFECTIOUS																				
Tuberculosis	32	0	1	0	1	1	2	1	1	1	4	1	2	4	2	6	5	0	0	0
Tetanus (non-neonatal)	2	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0
Other infectious	19	2	3	0	2	1	0	0	0	1	0	0	0	3	3	0	0	2	2	0
MALIGNANT NEOPLASMS	39	1	1	0	0	0	3	0	0	2	1	4	3	3	9	4	5	0	3	0
NUTRITIONAL	20	8	5	0	0	0	0	0	0	0	1	0	1	1	0	0	2	0	1	1
CARDIO-VASCULAR	69	0	0	0	1	0	0	0	2	1	1	3	1	6	15	9	15	4	6	5
RESPIRATORY																				
ARI, pneum, influenza	63	49	6	1	0	1	0	0	0	0	0	0	0	0	0	0	2	1	0	3
COPD*	61	0	0	0	0	0	0	0	0	0	2	1	4	5	14	11	13	8	1	2
GASTRO-INTESTINAL	49	0	2	1	0	0	1	0	3	0	2	0	5	4	11	8	7	3	2	0
DIRECT OBSTETRIC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NEONATAL																				
Tetanus (neonatal)	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other neonatal	97	97	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ACCIDENTS, INJURIES																				
Suicide	9	0	0	0	0	2	2	2	1	1	0	0	0	0	0	0	1	0	0	0
Homicide	7	0	0	0	0	3	1	1	0	1	0	1	0	0	0	0	0	0	0	0
Drowning	39	0	29	8	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0
Other accidents, etc.	28	0	0	0	3	6	4	3	2	2	1	2	1	3	0	0	0	0	0	1
OTHER AND UNSPECIFIED																				
Senility	92	0	0	0	0	0	0	0	0	0	0	0	0	1	6	13	17	22	14	19
Other causes n.e.c.**	93	2	0	3	2	2	1	1	1	2	4	2	5	4	15	13	13	9	8	6
Unknown	58	4	6	0	4	0	0	1	1	4	5	0	3	10	5	8	4	1	1	1
TOTAL	855	186	69	16	15	17	15	9	11	15	21	14	25	48	82	78	93	55	41	45

*Chronic obstructive pulmonary disease.
**Not elsewhere classified.

Table 3.13: Female Deaths by Cause and Age, 1996

Cause	All ages	Age at death (years)																		
		<1	1-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75-79	80-84	85+
DIARRHOEAL																				
Diarrhoea	72	19	16	2	0	0	1	1	1	0	0	0	0	5	3	3	8	8	4	1
Dysentery	13	2	2	3	0	0	0	0	0	0	0	0	0	0	1	2	0	1	1	1
INFECTIOUS																				
Tuberculosis	11	0	0	0	0	1	0	2	0	2	0	1	1	1	0	0	2	1	0	0
Tetanus (non-neonatal)	2	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
Other infectious	17	2	3	3	1	0	2	1	1	0	1	0	0	1	0	0	0	1	1	0
MALIGNANT	28	0	1	0	1	1	1	0	4	3	2	1	3	2	4	1	3	0	1	0
NUTRITIONAL	23	10	6	2	0	0	1	0	0	1	2	0	0	1	0	0	0	0	0	0
CARDIO-VASCULAR	75	1	0	0	0	1	0	0	2	1	2	4	4	3	7	13	15	8	7	7
RESPIRATORY																				
ARI, pneum, influenza	53	37	11	0	0	0	0	0	0	0	0	0	0	0	1	1	0	1	2	0
COPD*	37	0	0	1	0	0	0	1	1	1	2	1	2	3	5	8	7	3	2	0
GASTRO-INTESTINAL	23	0	0	0	0	0	0	0	0	2	0	1	2	3	3	3	4	2	3	0
DIRECT OBSTETRIC	20	0	0	0	0	2	6	4	4	4	0	0	0	0	0	0	0	0	0	0
NEONATAL																				
Tetanus (neonatal)	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other neonatal	75	75	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ACCIDENTS, INJURIES																				
Suicide	7	0	0	0	0	1	3	1	1	1	0	0	0	0	0	0	0	0	0	0
Homicide	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Drowning	27	0	26	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
Other accidents, etc.	13	1	0	1	3	0	0	0	1	0	0	0	0	0	2	0	1	3	1	0
OTHER AND UNSPECIFIED																				
Senility	97	0	1	0	0	0	0	0	0	0	0	0	1	2	7	14	21	16	21	14
Other causes n.e.c.**	135	5	5	5	1	2	2	0	0	3	2	2	4	14	15	22	14	18	12	9
Unknown	46	5	4	3	3	0	2	1	2	2	2	4	3	1	5	2	2	2	3	0
TOTAL	776	159	75	21	9	8	19	11	17	20	13	14	20	36	54	69	77	64	58	32

*Chronic obstructive pulmonary disease.
**Not elsewhere classified.

Table 3.14: Male Deaths by Cause, Age, and Area, 1996

Cause	All ages		Age at death (years)													
			<1		1-4		5-14		15-44		45-64		65-84		85+	
	M	C	M	C	M	C	M	C	M	C	M	C	M	C	M	C
DIARRHOEAL																
Diarrhoea	24	33	12	10	1	8	1	1	1	0	2	2	4	10	3	2
Dysentery	8	12	0	0	1	6	1	2	0	0	0	1	5	2	1	1
INFECTIOUS																
Tuberculosis	19	13	0	0	1	0	1	0	6	4	4	5	7	4	0	0
Tetanus (non-neonatal)	2	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0
Other infectious	5	14	1	1	0	3	0	2	0	2	2	4	2	2	0	0
MALIGNANT	22	17	0	1	0	1	0	0	2	4	12	7	8	4	0	0
NUTRITIONAL	11	9	3	5	3	2	0	0	1	0	2	0	2	1	0	1
CARDIO-VASCULAR	38	31	0	0	0	0	1	0	1	3	11	14	20	14	5	0
RESPIRATORY																
ARI, pneum, influenza	23	40	15	34	4	2	0	1	1	0	0	0	0	3	3	0
COPD*	37	24	0	0	0	0	0	0	2	0	12	12	22	11	1	1
GASTRO-INTESTINAL	32	17	0	0	2	0	1	0	1	5	13	7	15	5	0	0
DIRECT OBSTETRIC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NEONATAL																
Tetanus (neonatal)	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
Other neonatal	47	50	47	50	0	0	0	0	0	0	0	0	0	0	0	0
ACCIDENTS, INJURIES																
Suicide	5	4	0	0	0	0	0	0	4	4	0	0	1	0	0	0
Homicide	4	3	0	0	0	0	0	0	3	3	1	0	0	0	0	0
Drowning	21	18	0	0	15	14	6	2	0	1	0	0	0	1	0	0
Other accidents, etc.	19	9	0	0	0	0	1	2	14	4	4	2	0	0	0	1
OTHER AND UNSPECIFIED																
Senility	45	47	0	0	0	0	0	0	0	0	5	2	33	33	7	12
Other causes n.e.c.**	46	47	0	2	0	0	2	3	6	5	12	14	25	18	1	5
Unknown	27	31	1	3	1	5	1	3	7	4	10	8	6	8	1	0
TOTAL	436	419	80	106	28	41	15	16	49	39	91	78	151	116	22	23

*Chronic obstructive pulmonary disease.
**Not elsewhere classified.

Table 3.15: Female Deaths by Cause, Age, and Area, 1996

Cause	All ages		Age at death (years)													
			<1		1-4		5-14		15-44		45-64		65-84		85+	
	M	C	M	C	M	C	M	C	M	C	M	C	M	C	M	C
DIARRHOEAL																
Diarrhoea	26	46	11	8	4	12	0	2	1	2	3	5	7	16	0	1
Dysentery	9	4	2	0	0	2	2	1	0	0	1	0	3	1	1	0
Tuberculosis	5	6	0	0	0	0	0	0	3	2	1	2	1	2	0	0
Tetanus (non-neonatal)	1	1	0	0	0	0	0	1	1	0	0	0	0	0	0	0
Other infectious	10	7	2	0	2	1	1	3	3	2	1	0	1	1	0	0
MALIGNANT	20	8	0	0	1	0	0	1	8	3	8	2	3	2	0	0
NUTRITIONAL	14	9	7	3	3	3	0	2	3	1	1	0	0	0	0	0
CARDIO-VASCULAR	39	36	1	0	0	0	0	0	3	3	7	11	24	19	4	3
RESPIRATORY																
ARI, pneum, influenza	21	32	16	21	1	10	0	0	0	0	1	0	3	1	0	0
COPD*	20	17	0	0	0	0	1	0	3	2	7	4	9	11	0	0
GASTRO-INTESTINAL	15	8	0	0	0	0	0	0	2	0	4	5	9	3	0	0
DIRECT OBSTETRIC	10	10	0	0	0	0	0	0	10	10	0	0	0	0	0	0
NEONATAL																
Tetanus (neonatal)	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0
Other neonatal	34	41	34	41	0	0	0	0	0	0	0	0	0	0	0	0
ACCIDENTS, INJURIES																
Suicide	3	4	0	0	0	0	0	0	3	4	0	0	0	0	0	0
Homicide	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Drowning	18	9	0	0	18	8	0	0	0	0	0	1	0	0	0	0
Other accidents, etc.	7	6	1	0	0	0	2	2	1	0	2	0	1	4	0	0
OTHER AND UNSPECIFIED																
Senility	48	49	0	0	1	0	0	0	0	0	6	4	36	36	5	9
Other causes n.e.c.**	58	77	2	3	1	4	3	3	2	7	15	20	30	36	5	4
Unknown	20	26	3	2	0	4	5	1	4	5	5	8	3	6	0	0
TOTAL	378	398	79	80	31	44	14	16	47	41	62	62	130	138	15	17

*Chronic obstructive pulmonary disease.
**Not elsewhere classified.

Table 3.16: Age-standardized Mortality Rates by Cause of Death, 1996
(per 100,000 population)

Cause of death	Males		Females	
	MCH-FP area	Comparison area	MCH-FP area	Comparison area
Diarrhoea	48.00	67.12	61.55	119.25
Dysentery	15.24	23.06	25.16	7.70
Tuberculosis	37.83	30.51	9.73	15.81
Tetanus (non-neonatal)	-	-	1.91	-
Other infectious	10.40	27.31	19.41	13.97
Malignant neoplasms	44.06	37.93	41.43	18.15
Nutritional	22.27	17.74	27.84	16.00
Cardio-vascular	74.99	67.97	116.83	113.98
ARI, Pneumonia, influenza	46.77	77.63	47.92	61.67
COPD*	75.39	53.80	45.97	50.64
Gastro-intestinal	63.84	38.73	41.07	21.30
Direct obstetric	-	-	18.42	20.09
Neonatal tetanus	-	-	-	3.93
Other neonatal	99.28	96.97	67.43	80.53
Suicide	-	8.06	5.49	8.39
Homicide	-	-	-	-
Drowning	38.41	31.24	34.31	16.18
Other accidents	38.77	17.70	14.82	19.00
Senility	90.46	108.78	164.06	202.42
Other cause n.e.c.**	91.99	103.46	168.90	230.50
Unknown	54.99	64.75	42.07	62.47
Total	876.79	879.51	954.32	1083.36

*Chronic obstructive pulmonary disease.
**Not elsewhere classified.

CHAPTER 4

FERTILITY

Table 4.1 shows the number of pregnancies and their outcomes in 1996. Compared with 1995, the number of live births fell by 360 or 6.5 percent. In the MCH-FP area the number of live births was 276 less than in 1995, and in the Comparison area there were 84 less than in 1995. In the study area as a whole, 88.4 percent of pregnancies resulted in a live birth; a proportion which remains remarkably constant from year to year.

Table 4.2 and Figure 4.1 show the distribution of pregnancies by outcome, and live births by sex and month of occurrence. The data show the usual marked seasonal variation of births, peaking in January and October-December. The sex ratio of the live births was 101.0 males per 100 females, much lower than 1995.

Table 4.3 shows the age-specific fertility rates for the study area, together with the total fertility rate, crude birth rate, general fertility rate, and gross and net reproduction rates; Table 4.4 shows the corresponding rates for the MCH-FP and Comparison areas, which are also illustrated in Figure 4.2; Table 4.5 shows the rates for the four blocks of the MCH-FP area. Comparison of the age-specific rates with those for 1995 shows that the total fertility rate declined in all age groups of women in both areas, except in the 45-49 age group of the MCH-FP area and the 20-24 age group of the Comparison area.

Table 4.6 shows the distribution of births by mother's age and live birth order, and Table 4.7 the age-order-specific fertility rates derived from these figures. These tables are included in the DSS reports since 1992, and their production has been made possible by the up-dating of the pregnancy history files. The breakdown by birth order facilitates a more detailed and sensitive analysis of fertility trends and differentials. Thus, the totals of the order-specific rates represent the components by birth order of the total fertility rates. In the same way as the TFR represents the average number of children which would be borne by a woman who go through life having children at the current rates, so the total for birth order N represents the proportion of women who would have at least N children.

Thus the tables highlight the differences between the MCH-FP and Comparison areas. There is comparatively little difference between the two areas for birth orders 1 and 2, but thereafter they widen dramatically: for birth orders 7 and 8, the Comparison area rates are twice as high as those of the MCH-FP area, and for birth order 9 and more, they are more than four times as great.

Table 4.1 Number and Rates of Pregnancy Outcomes by Type and Area, 1996

Type of pregnancy outcome	Both areas		MCH-FP area		Comp. area	
	No.		No.	Rate	No.	Rate
Total pregnancies*	5803	112.1	2671	98.4	3132	127.3
Live birth preg.**	5133	884.5	2381	891.4	2752	878.7
Fetal wastage	670	115.5	290	108.6	380	121.3
Early (miscarriage)	513	88.4	206	77.1	307	98.0
Late (stillbirths)	157	27.1	84	31.4	73	23.3
Multiple birth pregnancies	58		27		31	
Live birth pregnancies	54		24		30	
Two live births	46		21		25	
One live birth	8		3		5	
Still birth pregnancies	2		2		0	
Miscarriage pregnancies	2		1		1	

*Rates per 1000 women of age 15-49 years
**Ratio per 1000 total pregnancies.

Table 4.2: Pregnancy Outcomes by Month, 1996

Months		Pregnancy outcome				No.of live born children			
		Miscarriage							
	All	Induced	Spon.	Still birth	Live birth*	Both sexes	Males	Females	Ratio
All months	5803	223	290	157	5133	5180	2603	2577	1.0101
January	511	11	17	17	466	467	228	239	0.9540
February	427	18	28	12	369	371	194	177	1.0960
March	419	31	18	11	359	363	187	176	1.0625
April	373	22	29	9	313	313	148	165	0.8970
May	364	19	30	11	304	305	154	151	1.0199
June	375	22	33	11	309	312	170	142	1.1972
July	405	24	32	10	339	341	171	170	1.0059
August	503	21	23	14	445	450	228	222	1.0270
September	507	16	18	10	463	470	227	243	0.9342
October	619	15	22	24	558	566	275	291	0.9450
November	705	17	24	16	648	656	339	317	1.0694
December	595	7	16	12	560	566	282	284	0.9930

*For any multiple pregnancy, the outcome is recorded as live birth if at least one of the issues is live born.

Figure 4.1: Number of Births and Deaths by Month, 1996

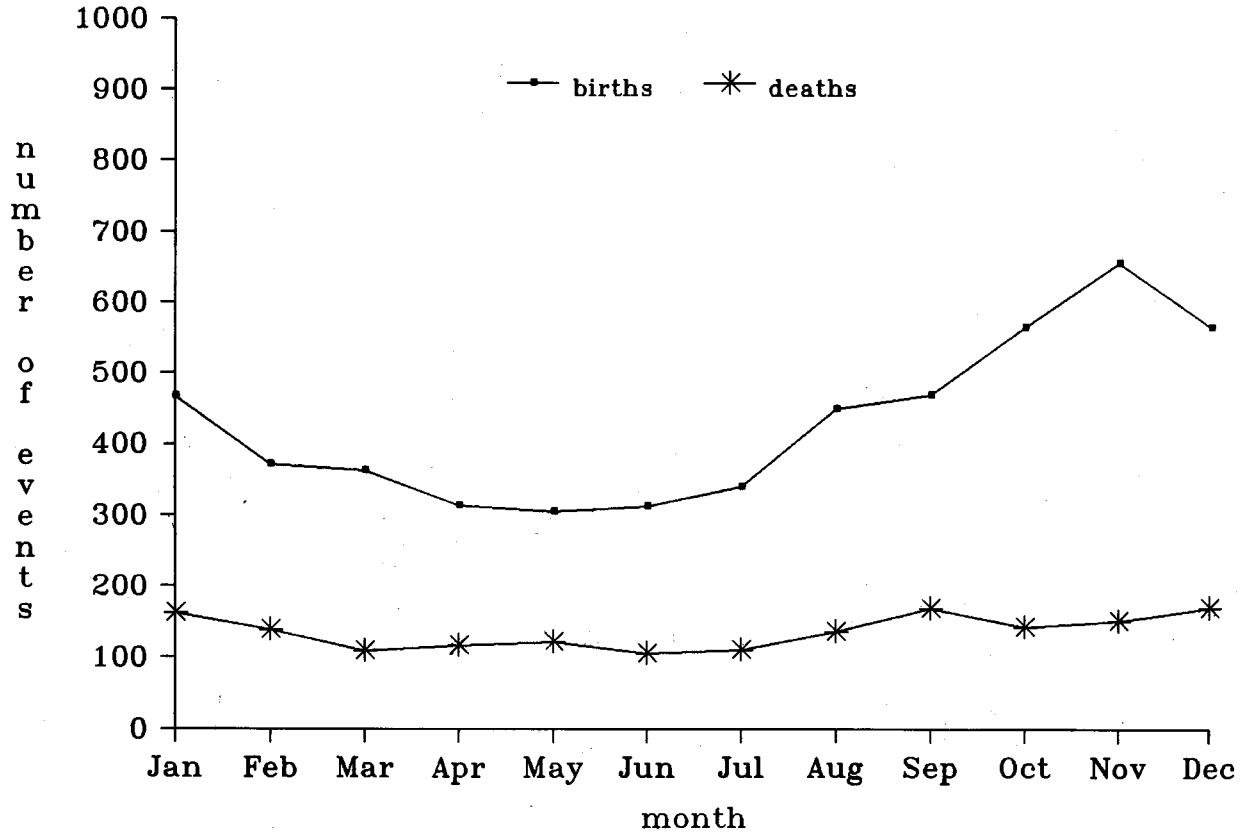


Table 4.3: Age-specific Fertility Rates and Indices, 1996

Age (years)	Number of live births	Number of women	ASFR (per 1000)
All ages	5180	51759	100.1
15-19*	635	10833	58.6
20-24	1682	8896	189.1
25-29	1482	8655	171.2
30-34	950	8272	114.8
35-39	347	6503	53.4
40-44	70	4632	15.1
45-49**	14	3968	3.5

Total Fertility Rate (TFR)	=	3029
General Fertility Rate (GFR)	=	100
Gross Reproduction Rate (GRR)	=	1499
Net Reproduction Rate (NRR)	=	1328

*Births to mothers under age 15 were included in this group.
**Births to mothers age 50 and above were included in this group.

Table 4.4: Age-specific Fertility Rates and Indices by Area, 1996

Age (years)	MCH-FP area			Comparison area		
	Births	Women	Rate	Births	Women	Rate
All ages	2403	27157	88.5	2777	24602	112.9
15-19*	293	5423	54.0	342	5410	63.2
20-24	782	4780	163.6	900	4116	218.7
25-29	704	4539	155.1	778	4116	189.0
30-34	445	4466	99.6	505	3806	132.7
35-39	140	3409	41.1	207	3094	66.9
40-44	30	2444	12.3	40	2188	18.3
45-49**	9	2096	4.3	5	1872	2.7
	TFR = 2650			TFR = 3457		
	GFR = 88			GFR = 113		
	GRR = 1350			GRR = 1684		
	NRR = 1197			NRR = 1490		

*Births to mothers under age 15 were included in this group.
**Births to mothers age 50 and above were included in this group

Figure 4.2: Age-specific Fertility Rates by Area, 1996

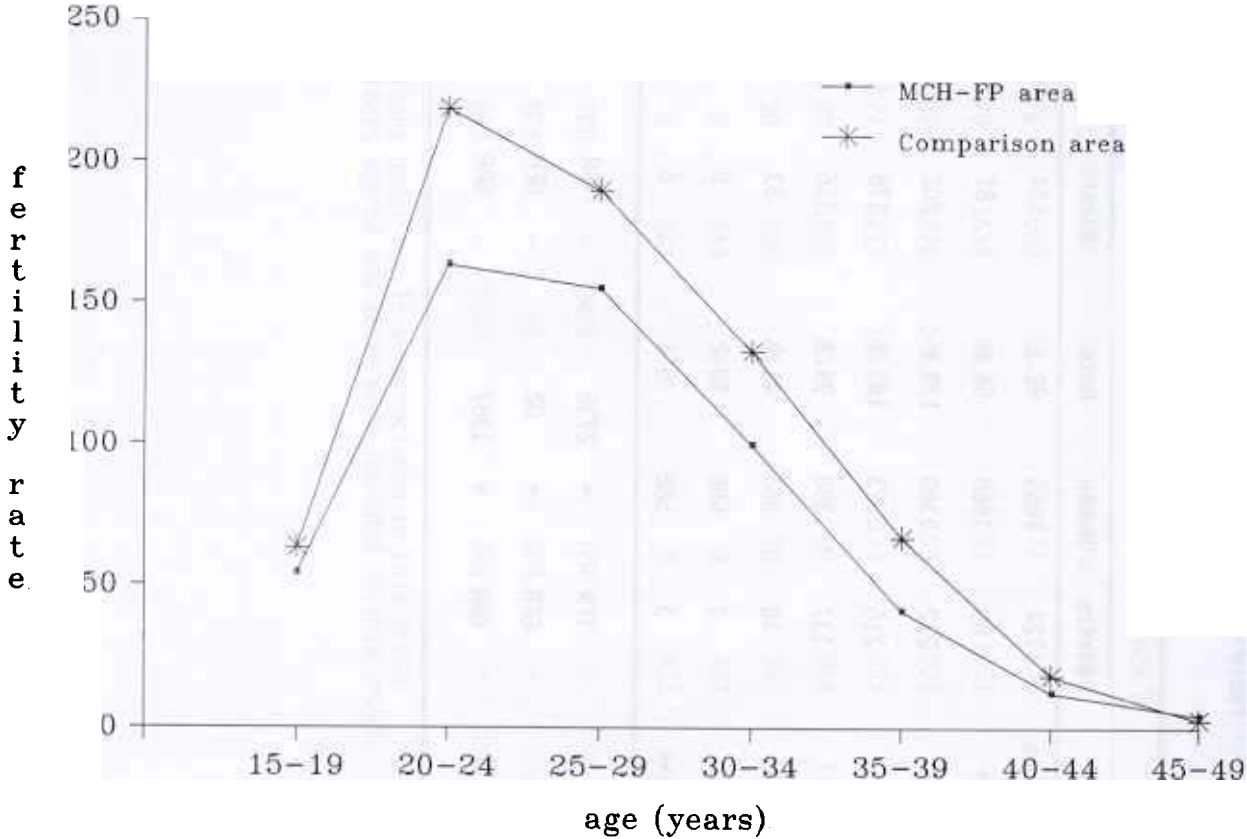


Table 4.5: Age-specific Fertility Rates and Indices for MCH-FP Area by Block, 1996

Age (years)	Block A			Block B		
	Births	Women	Rate	Births	Women	Rate
All ages	724	7859	92.1	624	6667	93.6
15-19*	89	1568	56.8	81	1365	59.3
20-24	232	1360	170.6	202	1144	176.6
25-29	216	1323	163.3	178	1094	162.7
30-34	137	1380	99.3	116	1088	106.6
35-39	40	954	41.9	33	818	40.3
40-44	7	686	10.2	8	622	12.9
45-49**	3	588	5.1	6	536	11.2
	TFR = 2736			TFR = 2848		
	GFR = 92			GFR = 94		
	GRR = 1387			GRR 1406		

(continued)

Table 4.5 (cont.): Age-specific Fertility Rates and Indices for MCH-FP Area by Block, 1996

Age (years)	Block C			Block D		
	Births	Women	Rate	Births	Women	Rate
All ages	578	7096	81.5	477	5535	86.2
15-19*	70	1439	48.6	53	1051	50.4
20-24	189	1275	148.2	159	1001	158.8
25-29	177	1217	145.4	133	905	147.0
30-34	97	1080	89.8	95	918	103.5
35-39	39	895	43.6	28	742	37.7
40-44	6	649	9.2	9	487	18.5
45-49**	0	541	0.0	0	431	
	TFR = 2425			TFR = 2580		
	GFR = 81			GFR = 86		
	GRR = 1309			GRR = 1282		

*Births to mothers under age 15 were included in this group.
**Births to mothers age 50 and above were included in this group

Table 4.6: Births by Mother's Age, Live-birth Order and A. 1996

Age (years)	Total women	Total births	Live-birth order									
			1	2	3	4	5	6	7	8	9	10+
Both areas												
<15	12940	3	1	2	0	0	0	0	0	0	0	0
15-19	10833	632	430	198	4	0	0	0	0	0	0	0
20-24	8896	1682	659	808	174	36	5	0	0	0	0	0
25-29	8655	1482	132	434	497	266	109	35	6	3	0	0
30-34	8272	950	20	67	178	246	214	131	54	27	10	3
35-39	6503	347	3	8	23	42	76	63	59	34	25	14
40-44	4632	70	0	0	1	7	5	9	9	11	16	12
45-49	3968	14	0	1	0	0	3	1	2	3	2	2
MCH-FP area												
<15	6436	2	0	2	0	0	0	0	0	0	0	0
15-19	5423	291	204	85	2	0	0	0	0	0	0	0
20-24	4780	782	339	378	57	7	1	0	0	0	0	0
25-29	4539	704	74	247	235	101	35	10	1	1	0	0
30-34	4466	445	11	36	102	136	92	47	13	5	2	1
35-39	3409	140	2	5	13	25	34	29	17	10	3	2
40-44	2444	30	0	0	1	3	5	6	4	5	4	2
45-49	2096	9	0	1	0	0	3	0	1	2	1	1
Comparison area												
<15	6504	1	1	0	0	0	0	0	0	0	0	0
15-19	5410	341	226	113	2	0	0	0	0	0	0	0
20-24	4116	900	320	430	117	29	4	0	0	0	0	0
25-29	4116	778	58	187	262	165	74	25	5	2	0	0
30-34	3806	505	9	31	76	110	122	84	41	22	8	2
35-39	3094	207	1	3	10	17	42	34	42	24	22	12
40-44	2188	40	0	0	0	4	0	3	5	6	12	10
45-49	1872	5	0	0	0	0	0	1	1	1	1	1

Table 4.7: Age-order-specific Fertility Rates by Area, 1996

Age (years)	Total	Live-birth order									
		1	2	3	4	5	6	7	8	9	10+
Both areas											
<15	0.0002	0.0001	0.0002	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
15-19	0.0583	0.0397	0.0183	0.0004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
20-24	0.1891	0.0741	0.0908	0.0196	0.0040	0.0006	0.0000	0.0000	0.0000	0.0000	0.0000
25-29	0.1712	0.0153	0.0501	0.0574	0.0307	0.0126	0.0040	0.0007	0.0003	0.0000	0.0000
30-34	0.1148	0.0024	0.0081	0.0215	0.0297	0.0259	0.0158	0.0065	0.0033	0.0012	0.0004
35-39	0.0534	0.0005	0.0012	0.0035	0.0065	0.0117	0.0097	0.0091	0.0052	0.0038	0.0022
40-44	0.0151	0.0000	0.0000	0.0002	0.0015	0.0011	0.0019	0.0019	0.0024	0.0035	0.0026
45-49	0.0035	0.0000	0.0003	0.0000	0.0000	0.0008	0.0003	0.0005	0.0008	0.0005	0.0005
Total	3.0286	0.6599	0.8449	0.5131	0.3624	0.2627	0.1588	0.0937	0.0598	0.0451	0.0281
MCH-FP area											
<15	0.0003	0.0000	0.0003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
15-19	0.0537	0.0376	0.0157	0.0004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
20-24	0.1636	0.0709	0.0791	0.0119	0.0015	0.0002	0.0000	0.0000	0.0000	0.0000	0.0000
25-29	0.1551	0.0163	0.0544	0.0518	0.0223	0.0077	0.0022	0.0002	0.0002	0.0000	0.0000
30-34	0.0996	0.0025	0.0081	0.0228	0.0305	0.0206	0.0105	0.0029	0.0011	0.0004	0.0002
35-39	0.0411	0.0006	0.0015	0.0038	0.0073	0.0100	0.0085	0.0050	0.0029	0.0009	0.0006
40-44	0.0123	0.0000	0.0000	0.0004	0.0012	0.0020	0.0025	0.0016	0.0020	0.0016	0.0008
45-49	0.0043	0.0000	0.0005	0.0000	0.0000	0.0014	0.0000	0.0005	0.0010	0.0005	0.0005
Total	2.6497	0.6395	0.7974	0.4556	0.3136	0.2099	0.1184	0.0512	0.0364	0.0172	0.0105
Comparison area											
<15	0.0002	0.0002	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
15-19	0.0630	0.0418	0.0209	0.0004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
20-24	0.2187	0.0777	0.1045	0.0284	0.0070	0.0010	0.0000	0.0000	0.0000	0.0000	0.0000
25-29	0.1890	0.0141	0.0454	0.0637	0.0401	0.0180	0.0061	0.0012	0.0005	0.0000	0.0000
30-34	0.1327	0.0024	0.0081	0.0200	0.0289	0.0321	0.0221	0.0108	0.0058	0.0021	0.0005
35-39	0.0669	0.0003	0.0010	0.0032	0.0055	0.0136	0.0110	0.0136	0.0078	0.0071	0.0039
0-44	0.0183	0.0000	0.0000	0.0000	0.0018	0.0000	0.0014	0.0023	0.0027	0.0055	0.0046
45-49	0.0027	0.0000	0.0000	0.0000	0.0000	0.0000	0.0005	0.0005	0.0005	0.0005	0.0005
Total	3.4570	0.6823	0.8995	0.5782	0.4168	0.3229	0.2052	0.1419	0.0865	0.0762	0.0475

CHAPTER 5

MARRIAGE AND DIVORCE

The number of marriages registered in 1996 was 2,723, giving a crude marriage rate of 12.9 per thousand. These figures show an increase on those of 1995.

Tables 5.1 and 5.2 show the distributions of grooms and brides by age at marriage and previous marital status. The mean ages at marriage -- 27.3 and 19.8 for all grooms and brides; 26.0 and 18.9 for those marrying for the first time -- is almost similar to that of 1995. In general there appears to be a rise in age at marriage of females in Matlab: the mean age has been over 18 for every year since 1984, while prior to that date it was consistently below that age.

Table 5.3 shows marriage rates by age and sex and makes it clear that some changes occurred compared to 1995. Marriages increase for both men and women in all the age groups except in the age group 40-44 years old for men. Table 5.4 is presents data on a cross-tabulation of marriages by groom's and bride's age.

Table 5.5 shows that divorces numbered 334 in 1996, which is more than 1995 of 319. In general, the incidence of divorce in Matlab appears to have fallen: during the first four years of the present study, from 1978 to 1981, the numbers of divorces were consistently over 500; since 1981 they have been below that figure Table 5.5 also presents data on number of divorces by partner's age, indicating that the peak ages of divorce for men were 25-29, compared to 20-24 for women. This reflects the sex difference in age at marriage.

Table 5.6 and Figure 5.1 show the distributions of marriages and divorces by month. May appears to be a peak month for marriages, but no regular seasonal pattern is discernible in the number of divorces.

Table 5.7 gives data on divorces by marriage duration, sex and age. The largest percentage of divorces occurs among couples married twelve to twenty-three months.

It may be noted that the DSS definitions specify that if either partner in a marriage has been resident in the study area, the marriage should be registered. Thus if a bride from the study area marries a groom from outside the area, the marriage will be included in the marriage statistics, though she immediately moves out of the area and all here subsequent childbearing goes unrecorded by the DSS. These procedures lead to an imbalance between the numbers of marriages and the numbers of births, and caution is needed if for any reason the two data sets have to be related.

Table 5.1: Groom s Age at Marriage by Previous Marital Status, 1996

Age (years)	All grooms		Previous marital status							
			Single		Married		Divorced		Widowed	
	No.	Percent	No.	Percent	No.	Percent	No.	Percent	No.	Percent
All ages	2723	100.0	2299	100.0	88	100.0	245	100.0	91	100.0
10-14	2	0.1	2	0.1	0	0.0	0	0.0	0	0.0
15-19	162	5.9	155	6.7	0	0.0	7	2.9	0	0.0
20-24	723	26.6	668	29.1	7	8.0	46	18.8	2	2.2
25-29	1117	41.0	1016	44.2	14	15.9	79	32.2	8	8.8
30-34	475	17.4	385	16.7	25	28.4	50	20.4	15	16.5
35-39	134	4.9	62	2.7	21	23.9	35	14.3	16	17.6
40-44	42	1.5	7	0.3	11	12.5	13	5.3	11	12.1
45-49	25	0.9	4	0.2	6	6.8	5	2.0	10	11.0
50-54	14	0.5	0	0.0	2	2.3	1	0.4	11	12.1
55-59	10	0.4	0	0.0	0	0.0	5	2.0	5	5.5
60-64	3	0.1	0	0.0	0	0.0	0	0.0	3	3.3
65+	16	0.6	0	0.0	2	2.3	4	1.6	10	11.0
Median age*	26.0		26.0		34.0		29.0		42.0	
Mean age*	27.3		26.0		34.8		30.8		43.7	
Standard dev.*	6.8		4.3		9.3		9.6		13.0	

*Mean, median, and standard deviation were calculated from ungrouped age data.

Table 5.2: Bride's Age at Marriage by Previous Marital Status, 1996

Age (years)	All brides		Previous marital status					
			Single		Divorced		Widowed	
	No.	Percent	No.	Percent	No.	Percent	No.	Percent
All ages	2723	100.0	2393	100.0	307	100.0	23	100.0
10-14	99	3.6	97	4.1	2	0.7	0	0.0
15-19	1518	55.7	1454	60.8	62	20.2	2	8.7
20-24	810	29.7	707	29.5	99	32.2	4	17.4
25-29	193	7.1	119	5.0	71	23.1	3	13.0
30-34	64	2.4	15	0.6	47	15.3	2	8.7
35-39	23	0.8	1	0.0	17	5.5	5	21.7
40-44	5	0.2	0	0.0	2	0.7	3	13.0
45-49	6	0.2	0	0.0	4	1.3	2	8.7
50-54	5	0.2	0	0.0	3	1.0	2	8.7
55-59	0	0.0	0	0.0	0	0.0	0	0.0
60-64	0	0.0	0	0.0	0	0.0	0	0.0
65+	0	0.0	0	0.0	0	0.0	0	0.0
Median age*	19.0		19.0		24.0		35.0	
Mean age*	19.8		18.9		25.3		33.9	
Standard dev.*	4.6		3.2		7.0		11.9	

*Mean, median, and standard deviation were calculated from ungrouped age data.

5.3: Marriage Rates by Age and Sex, 1996

Age (years)	Males			Females		
	Marriages	Population	Rate*	Marriages	Population	Rate*
10-14	2	13948	0.1	99	12940	7.7
15-19	162	12372	13.1	1518	10833	140.1
20-24	723	8476	85.3	810	8896	91.1
25-29	1117	6738	165.8	193	8655	22.3
30-34	475	6524	72.8	64	8272	7.7
35-39	134	6500	20.6	23	6503	3.5
40-44	42	4588	9.2	5	4632	1.1
45+	68	17828	3.8	11	19345	0.6

*Rates per 1000 population irrespective of previous marital status

Table 5.4: Number of Marriages by Groom's and Bride's Age at Marriage, 1996

Groom's age (years)	All	Bride's age (years)							
		10-14	15-19	20-24	25-29	30-34	35-39	40-44	45+
All ages	2723	99	1516	810	193	64	23	5	13
10-14	1	0	0	0	0	0	0	0	1
15-19	163	7	133	16	7	0	0	0	0
20-24	723	48	491	163	17	4	0	0	0
25-29	1117	37	644	380	45	9	0	1	1
30-34	475	7	201	188	62	16	1	0	0
35-29	134	0	37	43	40	11	3	0	0
40-44	42	0	7	13	10	10	2	0	0
45-49	25	0	2	4	4	4	8	2	1
50-54	14	0	0	2	5	4	2	1	0
55-59	10	0	0	1	2	1	3	0	3
60 64	3	0	0	0	0	0	2	0	1
65+	16	0	1	0	1	5	2	1	6

Table 5.5: Number of Divorces by Partners' Age at Divorce, 1996

Male's age (years)	All	Female's age (years)								
		10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50+
All ages	334	8	108	118	56	25	11	4	1	3
10-14	0	0	0	0	0	0	0	0	0	0
15-19	13	1	8	1	2	1	0	0	0	0
20-24	63	3	37	19	3	1	0	0	0	0
25-29	115	3	46	51	12	2	1	0	0	0
30-24	74	0	15	30	21	6	1	1	0	0
35-39	43	0	2	13	14	9	4	1	0	0
40-44	11	1	0	4	1	3	2	0	0	0
45-49	4	0	0	0	1	2	1	0	0	0
50-54	3	0	0	0	1	1	1	0	0	0
55-59	5	0	0	0	1	0	0	1	1	2
60-64	2	0	0	0	0	0	0	1	0	1
65+	1	0	0	0	0	0	1	0	0	0

Table 5.6: Marriages and Divorces by Months, 1996

Month	Marriage		Divorce	
	Number	Percent	Number	Percent
January	196	7.3	43	12.9
February	187	6.9	29	8.7
March	291	10.8	26	7.8
Apr	108	4.0	18	5.4
May	341	12.6	38	11.4
June	195	7.2	24	7.2
July	276	10.2	25	7.5
August	257	9.5	28	8.4
September	160	5.9	26	7.8
October	248	9.2	34	10.2
November	221	8.2	19	5.7
December	223	8.3	24	7.2
Total	2723	100.0	334	100.0

Figure 5.1: Marriages and Divorces by Month, 1996

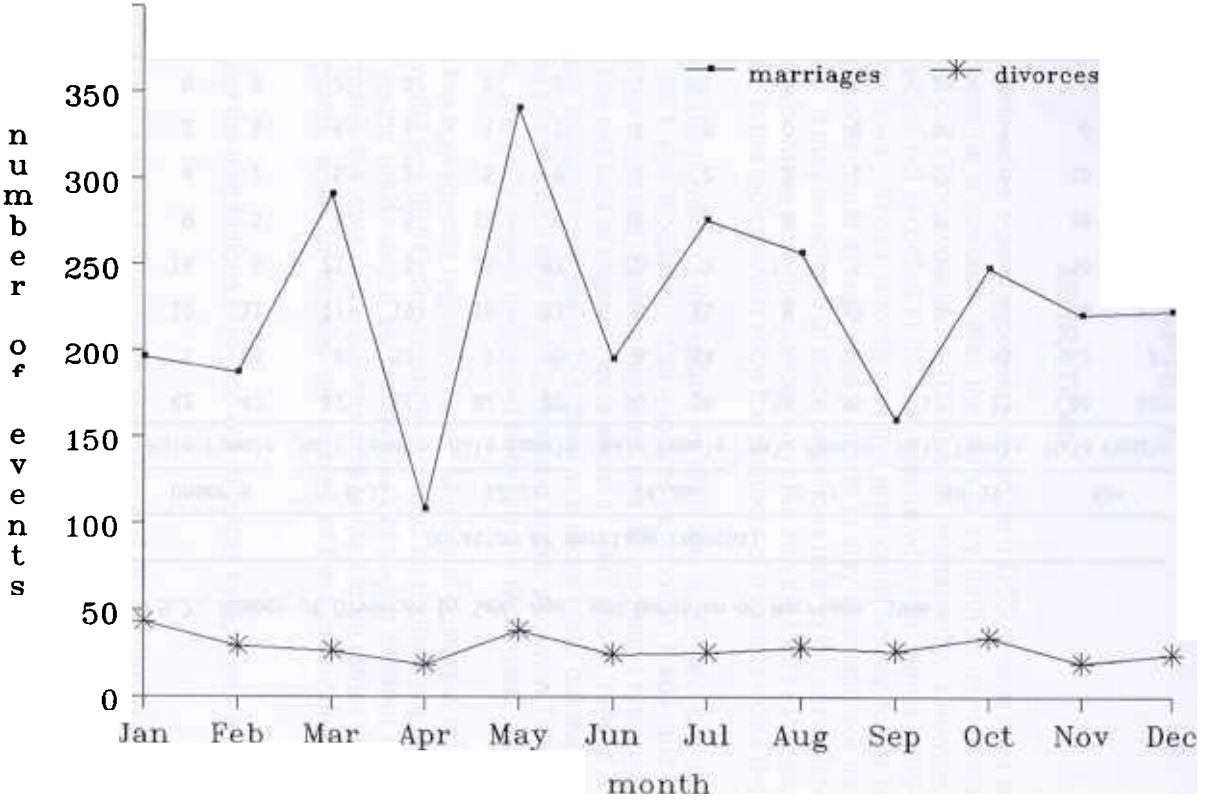


Table 5.7: Number of Divorces by Sex, Age, and Duration of Marriage, 1996

Age at divorce	Duration of marriage (months)															
	All duration		Under 6		6-11		12-23		24-35		36-47		48-59		60+	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
All ages	334	334	42	42	61	61	82	82	36	36	36	36	17	17	60	60
Under 20	13	116	1	23	4	31	7	35	0	14	1	10	0	1	0	2
20-24	63	118	10	11	17	19	16	33	6	15	8	19	2	10	4	11
25-29	115	56	16	5	21	3	38	13	12	2	15	5	3	4	10	24
30-34	74	25	9	1	8	5	13	0	12	2	8	1	6	1	18	15
35-39	43	11	4	2	5	2	5	0	3	2	3	1	5	0	18	4
40-44	15	5	2	0	4	1	1	1	2	0	0	0	0	1	6	2
50-	11	3	0	0	2	0	2	0	1	1	1	0	1	0	4	2

CHAPTER 6

MIGRATION

An "out-migrant" is defined as a person originally listed on a DSS census as a resident, or a person who became a resident after the census by birth or immigration, who subsequently moved out of the surveillance (DSS) area permanently. Likewise, an "in-migrant" is an individual not recorded in the last census who has permanently moved into the surveillance area. Those who stay in the area continuously for at least six months in a year or come home at least once a month to stay overnight are treated as permanent residents. It may be noted that these definitions refer to the surveillance area as a whole. People who move from the Comparison area into the MCH-FP area, or vice versa, do not feature in the tables which show the numbers of migrants in the two areas.

Table 6.1 shows that the number of in-migrants in 1996 was 5,307 giving a crude rate of in-migration of 25.1 per thousand. Out-migrants numbered 7,404 and the out-migration rate 35.0 per thousand. Both in-migration and out-migration rates were lower on those of 1995. The net loss of migrants were equal in 1995 and in 1996. Female in-migrants once again outnumbered male, but there are more male out-migrants than female. The numbers for the MCH-FP and Comparison areas, shown in Tables 6.2 and 6.3 by age and sex, are fairly evenly distributed between the two areas.

Tables 6.4 shows the age-specific migration rates, which are illustrated in Figure 6.1. They show the bi-modal age distributions commonly found for migrant populations, with a primary peak of young adults and a secondary peak of young children moving with their parents. For males the ages of the out-migrants tended to be rather younger than those of the in-migrants, while for females the shapes of the distributions were more similar.

Table 6.5 to 6.8 show the distributions of in- and out-migrants by age, sex and the cause of the movement.

Table 6.9 and Figure 6.2 show the numbers moving in and out by month. January and to a lesser extent February, March and December were the preferred months for such moves, while there are the fewest movements in September, October and November.

Tables 6.10 and 6.11 show the number of males and females migrating in and out of the Matlab DSS area by location of origin or destination. For locations in Bangladesh the Division and whether the location is rural or urban is given. For numerically important origins or destinations the District is also shown. Roughly equal numbers of men and women move into and out of rural areas of Chandpur district, neighboring Matlab, probably due to marriage. There is a net loss of both men and women to urban Dhaka, primarily of young adults. There is also a net loss to India, but more evenly distributed across age groups. Migration to the Middle-East and other Asian locations is heavily concentrated among out-migrating males age 15-44.

Table 6.1: In- and Out-migration by Age and Sex, 1996

Age (years)	In-migration			Out-migration		
	Both sexes	Males	Females	Both sexes	Males	Females
All ages	5307	2325	2982	7404	3874	3530
Under 5	809	382	427	832	420	412
0	231	103	128	201	106	95
1	170	76	94	179	96	83
2	148	78	70	162	83	79
3	127	61	66	160	80	80
4	133	64	69	130	55	75
5 - 9	526	263	263	591	325	266
10-14	368	183	185	597	303	294
15-19	848	181	667	1380	517	863
20-24	859	190	669	1462	758	704
25-29	602	290	312	1027	607	420
30-34	464	285	179	571	369	202
35-39	306	228	78	370	257	113
40-44	168	117	51	184	121	63
45-49	85	61	24	100	70	30
50-54	82	50	32	76	43	33
55-59	66	43	23	60	30	30
60-64	42	18	24	60	24	36
65+	82	34	48	94	30	64

Table 6.2: In-migration by Age, Sex, and Area, 1996

Age (years)	MCH-FP area			Comparison area		
	Both sexes	Males	Females	Both sexes	Males	Females
All ages	2516	1059	1457	2791	1266	1525
Under 5	396	191	205	413	191	222
0	124	53	71	107	50	57
1	80	43	37	90	33	57
2	67	32	35	81	46	35
3	66	32	34	61	29	32
4	59	31	28	74	33	41
5 - 9	241	128	113	285	135	150
10-14	154	83	71	214	100	114
15-19	415	68	347	433	113	320
20-24	416	74	342	443	116	327
25-29	270	118	152	332	172	160
30-34	243	146	97	221	139	82
35-39	141	102	39	165	126	39
40-44	84	59	25	84	58	26
45-49	35	25	10	50	36	14
50-54	38	19	19	44	31	13
55-59	27	18	9	39	25	14
60-64	15	8	7	27	10	17
65+	41	20	21	41	14	27

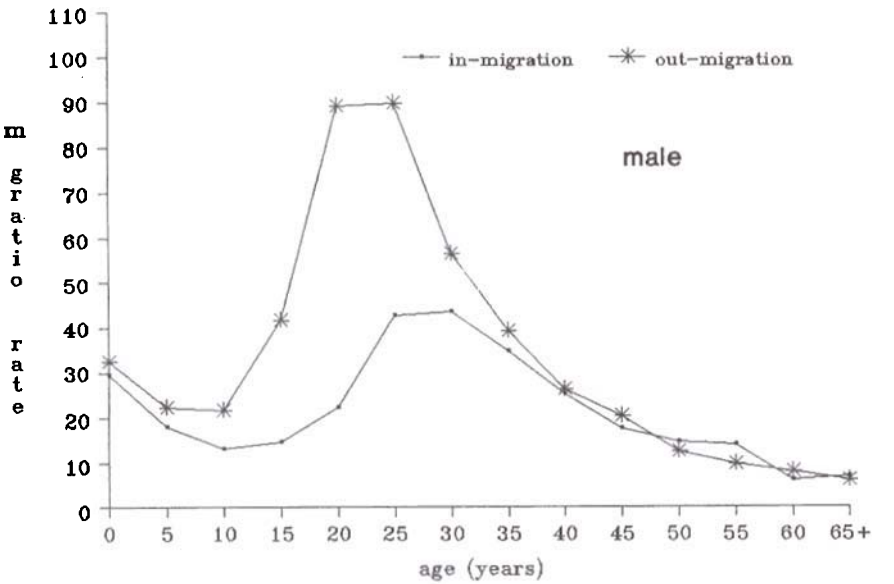
Table 6.3: Out-migration by Age, Sex, and Area, 1996

Age (years)	MCH-FP area			Comparison area		
	Both sexes	Males	Females	Both sexes	Males	Females
All ages	3590	1864	1726	3814	2010	1804
Under 5	373	193	180	459	227	232
0	86	49	37	115	57	58
1	86	48	38	93	48	45
2	75	34	41	87	49	38
3	70	37	33	90	43	47
4	56	25	31	74	30	44
5 - 9	280	164	116	311	161	150
10-14	291	152	139	306	151	155
15-19	672	236	436	708	281	427
20-24	759	398	361	703	360	343
25-29	517	293	224	510	314	196
30-34	269	168	101	302	201	101
35-39	172	123	49	198	134	64
40-44	87	53	34	97	68	29
45-49	44	29	15	56	41	15
50-54	36	19	17	40	24	16
55-59	26	15	11	34	15	19
60-64	24	8	16	36	16	20
65+	40	13	27	54	17	37

Table 6.4: Age and Sex-specific Migration Rates by Direction, 1996
(per 1000 population)

Age (years)	Both sexes		Males		Females	
	In	Out	In	Out	In	Out
Al ages	25.1	35.0	22.2	37.0	27.8	32.9
Under 5	31.7	32.6	29.6	32.5	33.9	32.7
0	45.9	39.9	40.7	41.8	51.1	37.9
1	32.4	34.1	28.4	35.9	36.6	32.3
2	28.7	31.4	30.2	32.1	27.2	30.7
3	24.3	30.6	22.9	30.0	25.8	31.2
4	27.5	26.9	26.2	22.5	28.9	31.5
5 - 9	18.2	20.5	18.1	22.4	18.3	18.5
10-14	13.7	22.1	13.1	21.7	14.3	22.7
15-19	36.4	59.3	14.6	41.7	61.4	79.4
20-24	49.3	83.9	22.4	89.2	75.0	78.9
25-29	39.0	66.6	42.9	89.8	36.0	48.5
30-34	31.3	38.5	43.6	56.5	21.6	24.4
35-39	23.5	28.4	35.0	39.5	12.0	17.3
40-44	18.2	19.9	25.4	26.3	11.0	13.6
45-49	11.5	13.5	17.7	20.3	6.0	7.5
50-54	10.4	9.6	14.6	12.5	7.2	7.4
55-59	10.1	9.2	13.9	9.7	6.7	8.8
60-64	6.9	9.9	6.0	8.0	7.8	11.7
65+	8.8	10.0	6.9	6.1	10.8	14.3

Figure 6.1: Rate of In- and Out-migration by Sex and Age, 1996



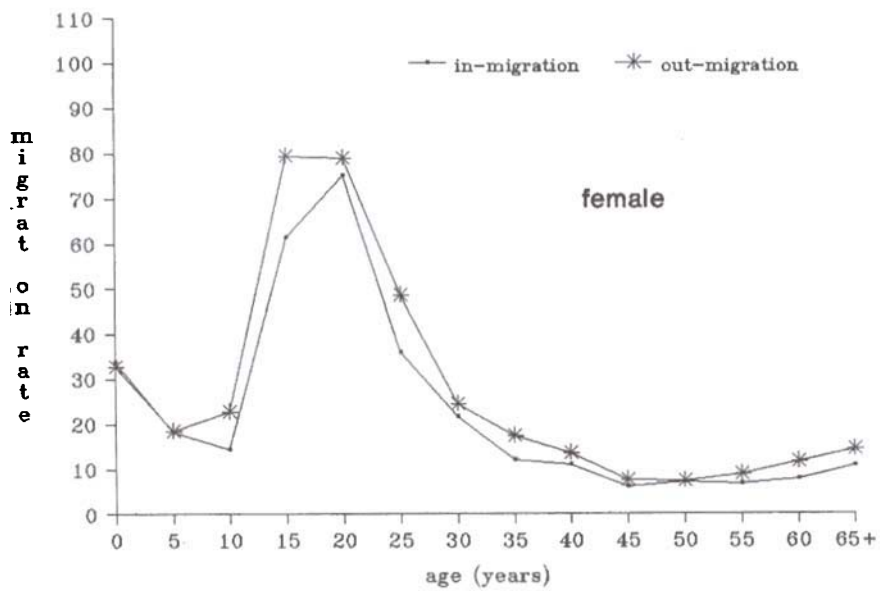


Table 6.5: Male Out-migration by Cause of Movement and Age, 1996

Cause of movement	Total	Age (years)												
		<5	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+
All migrants	3874	420	325	303	517	758	607	369	257	121	70	43	30	24	30
Work/Economic/Educational															
-acquired/seeking job	2251	0	2	63	305	619	534	308	215	100	49	32	13	7	4
-job completion/retirement	13	0	1	0	0	1	3	2	0	1	0	2	1	2	0
-to acquire education	240	1	20	49	82	67	16	4	1	0	0	0	0	0	0
-educ. completed/interrupt	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
-student lodging	4	0	0	0	1	0	1	1	0	1	0	0	0	0	0
-student	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Housing/Environmental															
-acquired/seeking new land/house	132	0	0	0	4	6	13	28	23	10	16	7	10	8	7
-river erosion	6	1	0	0	1	0	2	0	1	0	0	0	0	1	0
Marriage/Familial															
-marriage	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
-separation/divorce/widow	4	0	0	0	0	1	2	0	0	0	1	0	0	0	0
-move with or join spouse/parents	1175	418	301	186	119	53	32	17	12	8	4	1	4	3	17
-adoption	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0
-family friction/breakdown	14	0	0	1	2	3	3	2	2	0	0	1	0	0	0
-health or old age care	5	0	0	0	0	0	0	0	0	0	0	0	1	2	2
Legal problems	13	0	0	0	2	3	0	4	2	0	0	0	1	1	0
Other and not stated															
-other n.e.c.*	15	0	1	3	1	5	1	2	1	1	0	0	0	0	0
-unknown or not stated	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0

*Not elsewhere classified

Table 6.6: Female Out-migration by Cause of Movement and Age, 1996

Cause of movement	Total	Age (years)													
		<5	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+
All migrants		412	266	294	863	/04	420	202	113	63	30	33	30	36	64
Work/Economic/Educational															
-acquired/seeking job	421	2	5	61	155	89	47	27	20	7	4	0	2	0	2
-job completion/retirement	4	0	0	1	1	0	2	0	0	0	0	0	0	0	0
-to acquire education	65	1	8	17	25	13	0	1	0	0	0	0	0	0	0
-educ. completed/interrupt	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
-student lodging	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
-student	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Housing/Familial															
-acquired/seeking new land/house	39	1	0	1	3	6	5	6	5	2	0	0	3	1	6
-river erosion	7	2	1	0	0	0	2	0	0	0	0		0	0	1
Marriage/Familial															
-marriage	602	0	0	15	346	169	53	10	7	1	1	0	0	0	0
-separation/divorce/widow	71	0	0	0	21	32	12	5		0	0	0	0	0	0
-move with or join spouse/parents	2272	400	250	195	310	388	289	150	78	52	24	30	22	32	52
-adoption	8	4	2	2	0	0	0	0	0	0	0	0	0	0	0
-family friction/breakdown	9	0	0	0	1	4	0	2	1	0	0	0	0	0	1
-health or old age care	8	0	0	0	0	0	0	0	0	0	0	2	2	2	2
Legal problems	0	0	0	1	0	0	0	1	0	0	0	0	0	2	0
Other and not stated															
-other n.e.c.*	22	2	0	2	1	2	10	1	1	0	1	0	1	1	0
-unknown or not stated	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

*Not elsewhere classified

Table 6.7: Male In-migration by Cause of Movement and Age, 1996

Cause of movement	Total	Age (years)													
		<5	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+
All migrants	2325	382	263	183	181	190	290	285	228	117	61	50	43	18	34
Work/Economic/Educational															
-acquired/seeking job	312	1	1	4	14	24	78	73	60	25	14	9	4	2	3
-job completion/retirement	427	0	0	1	23	43	73	91	81	40	21	21	13	10	10
-to acquire education	112	3	14	34	37	16	6	0	1	1	0	0	0	0	0
-educ. completed/interrupt	3	0	0	0	0	0	2	1	0	0	0	0	0	0	0
-student lodging	3	0	0	0	2	1	0	0	0	0	0	0	0	0	0
-student	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Housing/Environmental															
-acquired/seeking new land/house	195	0	0	0	3	20	33	44	29	16	16	8	14	2	10
-river erosion	15	1	2	0	0	0	1	1	4	2	0	4	0	0	0
Marriage/Familial															
-marriage	6	0	0	0	0	0	0	2	3	1	0	0	0	0	0
-separation/divorce/widow	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0
-move with or join spouse/parents	1185	372	245	143	96	69	81	67	43	29	9	8	11	3	9
-adoption	7	5	1	1	0	0	0	0	0	0	0	0	0	0	0
-family friction/breakdown	6	0	0	0	0	1	2	1	2	0	0	0	0	0	0
-health or old age care	5	0	0	0	0	1	0	2	0	0	0	0	0	0	2
Legal problems	11	0	0	0	0	1	2	2	2	1	1	0	1	1	0
Other and not stated															
-other n.e.c.*	37	0	0	0	6	14	12	1	2	2	0	0	0	0	0
-unknown or not stated	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

*Not elsewhere classified.

Table 6.8: Female In-migration by Cause of Movement and Age, 1996

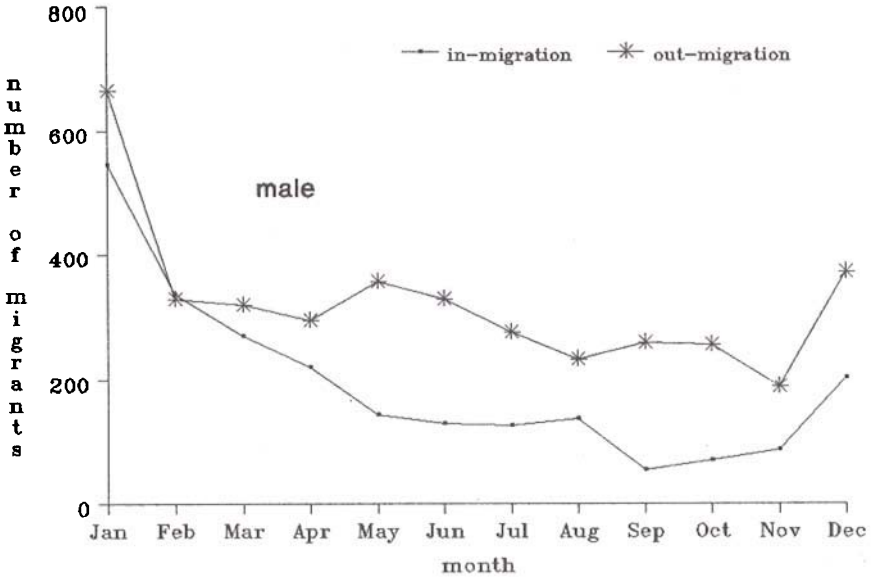
Cause of movement	Total	Age (years)													
		<5	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60 64	65+
All migrants			263	185	667	669	312	179	78	51	24	32	23	24	48
Work/Economic/Educational															
-acquired/seeking job	52	0	0	4	7	12	14	7	3	3	1	0	1	0	0
-job completion/retirement	44	0	0	1	24	12	2	0	3	1	1	0	0	0	0
-to acquire education	102	0	27	35	28	9	2	1	0	0	0	0	0	0	0
-educ. completed/interrupt	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
-student lodging	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
-student	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Housing/Environmental															
-acquired/seeking new land/home	54	0	0	1	1	7	12	10	4	5	2	4	3	1	4
-river erosion	8	2	1	0	1	0	2	0	0	0	1	0	1	0	0
Marriage/Familial															
-marriage	675	0	1	4	351	248	38	17	7	4	1	4	0	0	0
-separation/divorce/widow	105	0	0	1	31	30	24	11	4	2	1	0	0	0	1
-move with or join spouse/parents	1866	405	230	134	213	344	204	130	54	35	17	24	18	21	37
-adoption	28	20	4	3	0	1	0	0	0	0	0	0	0	0	0
-family friction/breakdown	15	0	0	0	4	2	8	0	1	0	0	0	0	0	0
-health or old age care	4	0	0	0	0	0	1	0	1	0	0	0	0	0	2
Legal problems	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other and not stated															
-other n.e.c.*	29	0	0	2	7	4	5	3	1	1	0	0	0	2	4
-unknown or not stated	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

*Not elsewhere classified.

Table 6.9: In- and Out-migration by Sex and Month, 1996

Age (years)	In-migration			Out-migration		
	Both sexes	Males	Females	Both sexes	Males	Females
January	1147	546	601	1277	665	612
February	705	336	369	660	328	332
March	619	270	349	633	319	314
April	467	219	248	548	294	254
May	381	144	237	703	356	347
June	295	130	165	623	329	294
July	319	126	193	524	276	248
August	320	138	182	450	232	218
September	171	55	116	444	259	185
October	170	71	99	433	256	177
November	238	88	150	376	188	188
December	475	202	273	733	372	361
All months	5307	2325	2982	7404	3874	3530

Figure 6.2: Number of In- and Out-migrants by Sex and Month, 1996



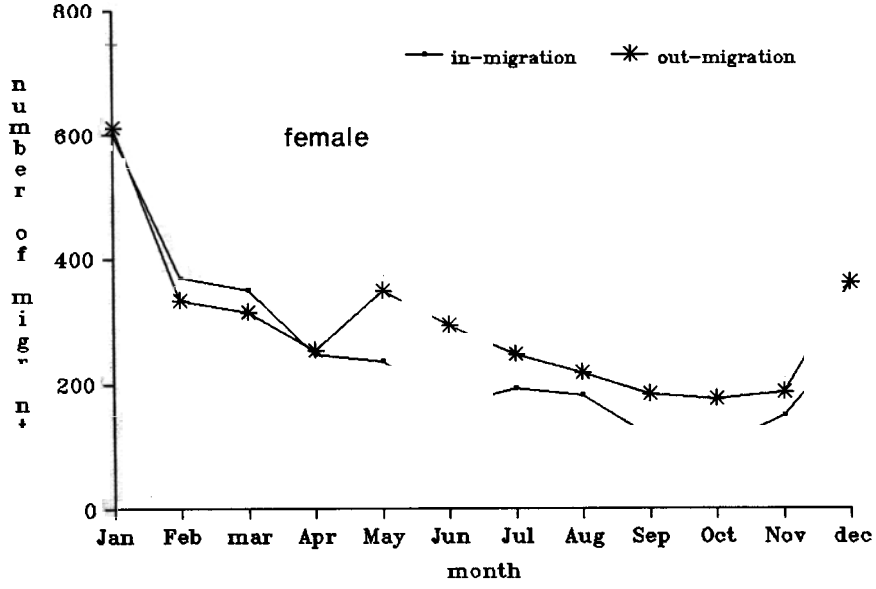


Table 6.10: Male Migration by Destination or Origin, 1996

Destination/origin			Out-Migration						In-Migration					
			Age (years)						Age (years)					
Division	rural/ urban	District	0-14	15-24	25-34	35-44	45+	Total	0-14	15-24	25-34	35-44	45+	Total
All migrants			1048	1275	976	378	197	3874	828	371	575	345	206	2325
Rajshahi	rural		0	0	1	0	0	1	2	1	0	1	0	4
	urban		11	7	3	1	2	24	5	1	4	1	0	11
Khulna	rural		0	1	0	0	1	2	4	0	2	1	0	7
	urban		10	15	11	3	1	40	19	9	8	7	12	55
Dhaka	rural	Dhaka	2	1	0	0	0	3	5	0	2	2	0	9
	rural	Narayangonj	8	1	0	1	1	11	5	0	1	2	0	8
	rural	Narsingdi	0	0	0	0	0	0	3	2	2	2	0	9
	rural	rest	5	6	5	3	1	20	11	3	7	3	0	24
	urban	Dhaka	370	432	221	74	51	1148	242	124	172	89	63	690
	urban	Narayangonj	110	89	56	30	19	304	44	21	40	24	17	146
	urban	Narsingdi	8	5	7	1	2	23	5	0	1	3	2	11
	urban	Gazipur	11	13	4	0	1	29	16	4	6	3	2	31
	urban	rest	17	14	8	3	0	42	16	2	8	2	3	31
Chittagong	rural	Comilla	40	16	12	5	6	79	59	19	20	11	4	113
	rural	Chandpur	227	99	76	46	48	496	243	68	84	52	36	483
	rural	rest	1	0	1	0	0	2	4	0	0	1	1	6
	urban	Sylhet	42	32	16	13	7	110	39	15	17	10	10	91
	urban	Comilla	29	17	7	5	4	62	22	8	14	2	9	55
	urban	Chandpur	10	6	3	3	1	23	3	2	4	0	1	10
	urban	Chittagong	79	65	36	16	2	198	40	32	31	13	18	134
	urban	rest	18	17	11	3	2	51	16	9	7	5	4	41
India			39	21	14	10	15	99	20	10	16	7	6	59
Other Asia			4	330	368	105	11	818	1	36	58	52	10	157
Middle-East			3	83	113	54	22	275	4	5	70	51	8	138
Other			0	0	1	1	0	2	0	0	1	1	0	2
Unknown			4	5	2	1	0	12	0	0	0	0	0	0

Table 6.11: Female Migration by Destination or Origin, 1996

estination/origin			Out-Migration						In-Migration					
			Age (years)						Age (years)					
ivision	rural/ urban	District	0-14	15-24	25-34	35-44	45+	Total	0-14	15-24	25-34	35-44	45+	Total
All migrants			972	1567	622	176	193	3530	875	1336	491	129	151	2982
Rajshahi	rural		0	0	0	0	1	1	1	1	1	0	0	3
	urban		5	8	5	1	3	22	6	4	2	0	2	14
Khulna	rural		3	1	1	0	0	5	3	2	2	0	0	7
	urban		15	11	0	2	5	42	23	15	11	4	5	58
Dhaka	rural	Dhaka	1	5	1	0	0	7	2	8	2	1	1	14
	rural	Narayangonj	3	10	2	1	2	18	5	3	3	0	0	11
	rural	Narsingdi	0	3	1	0	0	4	5	5	2	1	0	13
	rural	rest	8	14	6	1	4	33	16	19	13	1	0	49
	urban	Dhaka	347	444	217	52	75	1135	241	259	148	38	42	728
	urban	Narayangonj	119	102	52	30	22	325	58	49	33	6	10	156
	urban	Narsingdi	3	5	4	1	1	14	6	9	4	1	1	21
	urban	Gazipur	11	12	6	1	3	33	12	10	7	1	4	34
	urban	rest	13	21	7	2	2	45	22	19	8	4	3	56
Chittagong	rural	Comilla	38	122	31	8	3	202	55	155	34	8	10	262
	rural	Chandpur	235	585	165	40	30	1055	246	662	142	31	41	1122
	rural	rest	2	2	3	0	0	7	3	7	1	2	0	13
	urban	Sylhet	27	26	20	8	4	85	45	12	18	9	9	93
	urban	Comilla	13	26	13	4	4	60	18	14	11	2	4	49
	urban	Chandpur	8	13	5	0	0	26	4	6	3	0	0	13
	urban	Chittagong	64	105	37	10	10	226	63	53	28	12	5	161
	urban	rest	16	17	11	4	2	50	22	15	7	2	5	51
India			27	23	17	7	20	94	17	5	10	4	9	45
Other Asia			5	5	3	0	0	13	0	1	1	0	0	2
Middle-East			8	7	6	4	1	26	2	2	0	2	0	6
Other			1	0	0	0	0	1	0	1	0	0	0	1
Unknown			0	0	0	0	1	1	0	0	0	0	0	0

CHAPTER 7

Special Supplement

RECENT CHANGES IN NUPTIALITY PATTERNS IN MATLAB

INTRODUCTION

Nuptiality relates to marriage in a population including the rate at which it occurs, the characteristics of persons related to marriage and marriage dissolution. Specially, two factors are important in nuptiality behaviour, the age at first marriage and the proportion marrying. The two factors often change over time independently from each other contributing to changes in marriage patterns.

In this chapter an attempt is made to provide information on levels and trends of marriage, divorce and remarriage by age and sex over a period of twenty two years from 1975 to 1996. Age at marriage has an important effect on the rate of population growth, especially in a society where contraception is not practiced widely and where births do not occur outside marriage (Coale and Tye, 1961). Sadiq (1965) observed that with the same duration of marriage, early age at first marriage for women tends to have the highest impact on fertility. Across societies early age at marriage and a high proportion of married women results in a high child/women ratio. Shaikh (1995) in his study found that age at marriage has a significant effect on fertility after controlling for confounding variables. The lower the age at first marriage, the higher is the number of children ever born.

SOURCE OF DATA

Most of the studies undertaken in Bangladesh in the field of nuptiality were primarily based on either censuses or surveys. Data for this study has been taken from the Demographic Surveillance System (DSS) in Matlab, carried out by the International Centre for Diarrhoeal Disease Research, Bangladesh(ICDDR,B), from 1975 to 1996. Matlab, the field station of ICDDR,B, has the largest continuously operating Surveillance System in the developing world (Aziz and Mosley, 1994). The data used in this study come from two sources: registration figure of marriages, divorces and remarriages and mid-year population by marital status. Data are presented for a period of twenty two years from 1975 to 1996. The registration of marriages and divorces was introduced in 1975. The information collected in the marital status registration forms include type of event, date of event, both partners' date of birth, sex, marital status prior to this event, duration of previous marital status, education, occupation, marriage initiated by

themselves, guardians or marriage brokers , nature of kinship, place of residence of the bride and groom, event registered by 'Quazi' or not and the area.

The results of the analysis are presented in a series of 9 graphs and 7 tables.

RESULTS

Figure S.1 and Table S.1 show the crude first marriage rates per 1000 never married males and females respectively. There is no clear trend in the marriage rates for the two sexes over the period from 1975 to 1996. The rates fluctuated between 62 and 108 for males and 73 and 125 for females. The marriage rates were particularly low for the year 1975, a year of famine. The marriage rates were higher for females than males over the years.

The mean and median ages at first marriage are a useful summary measure for the timing of first marriage (Shryock and Siegel, 1975: 562). Data on the mean age at first marriage for both the sexes are presented in Figure S.2 and Table S.2. The figure shows that there has been a systematic shift in the marriage pattern towards older ages. The mean age at first marriage of females in the study area increased by nearly three years from 16.0 years in 1975 to 18.9 years in 1996. There is a less clear trend of age at first marriage for males and it fluctuated within the range of 24.5 years to 26.0 years over the period under study.

Figure S.3a and Table S.3 shows that the overall divorce rate for males declined during the study period, from a level of 16.1 divorces per 1000 married males in 1975-79 to 8.4 divorces in 1993-96. There was, however considerable variation in the age pattern of divorce over the four periods. In 1975-79, and also in the next period 1980-84, the divorce rates remained uniformly high in the first three age groups namely 15-19, 20-24 and 25-29 years old. However, the rates were lower in the more recent years compared to 1975-84. The divorce rates declined consistently for males above age 30 for the two periods 1989-92 and 1993-96. For the 1989-92 period, the divorce rate was very high for males of age 15-19, almost twice the rate in 1980-84. The rate declined substantially among those aged 20-29 and showed a consistent decline thereafter.

The pattern of divorce by age for females (Figure S.3b and Table S.4) was almost similar to that of the males. For females of age 25 and above, the divorce rates fell consistently with age. The divorce rate in the youngest age group (10-14) in 1989-92 is almost three times higher than in 1980-84. Hence the decline in the overall divorce rate in 1989-92 was due to changes in the marriage pattern. The divorce rate declined during 1993-96 ; this may be due to shifting of age at marriage towards older ages, as most of the divorces occurred within the 10-19 years of age group.

Data on the mean age at divorce of husbands and wives are presented in Figure S.4 and Table S.5. The figure shows that the mean age at divorce of husbands fluctuated within the range of 28.9 to 31.6 during 22 years from 1975 to 1996. In contrast, a

continuously increasing trend has prevailed in the mean age at divorce of wives since 1981; from 19.3 years in 1981 to 22 years in 1996. The reason of the increase in the mean age at divorce in the recent period is the increase in the age at marriage of both males and females.

The number of remarriages per 1000 persons exposed to remarriages for different periods has been presented in Figure S.5a and Table S.6. The rates have been shown separately for the two sexes. Of 1000 divorced and widowed grooms during 1975-80, 389 got remarried. The remarriage rate declined to 166 per 1000 divorced and widowed grooms during 1987-92 and again increased to 250 per 1000 during the period 1993-96. The remarriage rate was much lower among females than males for both the divorced or widowed (see Figure S.5b and Table S.6). The figure clearly reveals that those who became divorced were more likely to get remarried than those who became widowed. This is true for both males and females. A divorced male was 5 times more likely to get remarried than a widower. On the other hand a widower was 22 times more likely to remarry than a widow.

It is also of interest to see what proportion of marriages in a year are remarriages. This is shown in Figure S.6a and S.6b and Table S.7. The data on the remarriages of divorced grooms and brides as a percentage of all marriages in each year shows that in 1975-1980 the remarriages constituted nearly 18 per cent and 16 per cent (on average) respectively. This figure declined to about 15 per cent among grooms and 14 per cent among brides during 1981-86 and still further to 9.5 per cent and 11 per cent respectively during 1993-1996. The data on remarriages of widowed grooms and brides as a percentage of all marriages shows that remarriages among widowers occurred three to four times more frequently than among widows in each year from 1975 to 1996

CONCLUSION

The data on the mean age at marriage suggest that the marriage pattern in the area has gradually changed in the period 1975-1996. Age at marriage has shifted towards older ages, and the changes are more prominent for females than males. This has been due to a strong period effect i.e. the mean age at marriage for males and females was significantly higher during 1992-96 compared to 1975-79. This is an indication of social changes which are taking place in a rural area of Bangladesh.

The incidence of divorce was found to vary substantially by age of persons. The divorce rates are highest at younger ages (below 30 for males and below 25 for females) and then drop steeply with increasing age. Remarriage after divorce is more common than after widowhood. Remarriage rates were much higher among males than among females.

Increase in age at marriage for females probably contributes to a reduction of the level of fertility. Apart from this, delayed marriage will reduce the occurrence of high risk births and hence will result in a decline in the level of infant mortality. There is a strong

evidence to suggest that such a reduction in mortality will in the long run bring about a substantial reduction of fertility.

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Table S.1: First Marriage Rate of Males and Females in 1975-1984 and 1989-1996 (rate per 1000 pop.)

	Never married			
Year	Males	Rate	Females	Rate
1975	17406	61.9	18074	73.0
1976	25617	77.2	21019	107.7
1977	23625	88.7	22778	104.1
1978	20966	108.4	20498	124.1
1979	22493	108.3	21814	125.4
1980	23909	87.9	23031	102.3
1981	25390	95.6	24231	111.3
1982	23005	85.2	21874	101.3
1983	23255	85.7	21637	104.0
1984	21943	100.1	20039	120.2
1989	26566	92.7	24430	107.3
1990	26350	94.2	25042	104.7
1991	25644	90.7	25192	97.3
1992	26838	90.6	26288	98.9
1993	26634	84.7	24717	95.7
1994	26432	88.7	25088	97.7
1995	26685	78.3	25647	84.5
1996	27231	84.4	26565	90.1
Total	440055	89.2	418019	102.5

Table S.2: Mean and Median Age at First Marriage of Grooms and Brides, 1975-1996.

	Grooms				Brides			
Year	N	Mean	S.D.	Median	N	Mean	S.D.	Median
1975	1081	24.5	3.95	25.0	1322	16.0	1.96	16.0
1979	2446	24.8	4.20	24.7	2739	17.6	2.20	17.6
1984	2211	25.3	3.60	25.0	2424	18.0	2.60	18.0
1989	2463	25.7	4.00	26.0	2623	18.4	2.70	18.0
1992	2434	25.8	4.10	26.0	2597	18.6	3.00	18.0
1996	2298	26.0	4.31	26.0	2393	18.9	3.18	19.0

Table S.3: Age-specific Divorce Rate of Males in 1975-1984 and 1989-1996

	Age at divorce (males)						
Year	15-19	20-24	25-29	30-34	35-39	40+	Total
1975-79							
ASDR*	60.5	63.9	57.0	26.3	9.4	3.8	16.1
N	(1157)	(8109)	(14664)	(18465)	(19383)	(88772)	(150550)
1980-84							
ASDR*	43.0	64.1	45.9	21.3	9.3	2.3	14.1
N	(1510)	(12419)	(19566)	(19001)	(18654)	(94252)	(165402)
1989-92							
ASDR*	82.7	39.7	28.1	21.1	7.7	2.5	11.5
N	(399)	(7199)	(19315)	(24553)	(18113)	(80767)	(150346)
1993-96							
ASDR*	50.7	36.2	27.7	12.1	7.4	1.8	8.4
N	(552)	(6276)	(15868)	(24721)	(23288)	(86598)	(157303)

*ASDR = Age specific divorce rate per 1000 married males.

Table S.4: Age-specific Divorce Rate of Females in 1975-1984 and 1989 -1996

	Age at divorce (females)						
Year	15-19	20-24	25-29	30-34	35-39	40+	Total
1975-79							
ASDR*	52.2	59.8	24.2	6.9	3.3	0.5	11.8
N	(1150)	(22208)	(30246)	(24517)	(25698)	(102764)	(206601)
1980-84							
ASDR*	40.2	43.2	25.0	7.3	2.1	0.4	10.2
N	(1620)	(23825)	(37603)	(28160)	(22866)	(115047)	(229121)
1989-92							
ASDR*	119.6	65.6	22.8	9.3	3.5	0.6	8.4
N	(117)	(7424)	(32823)	(34113)	(25738)	(104915)	(205130)
1993-96							
ASDR*	29.3	34.0	18.8	7.5	3.4	0.6	6.0
N	(375)	(10324)	(28327)	(33963)	(31353)	(116243)	(220585)

*ASDR = Age specific divorce rate per 1000 married females.

Table S.5: Mean and Median Age of Husband and Wife at the Time of Divorce, 1975-1996

	Husband's age				Wife's age			
Year	N	Mean	S.D.	Median	N	Mean	S.D.	Median
1975	405	31.3	9.3	30.0	405	21.0	5.8	19.0
1976	390	30.5	9.7	28.4	390	20.0	5.1	18.8
1977	565	30.4	8.6	28.3	565	19.8	5.3	18.4
1978	514	29.2	7.9	27.0	514	19.9	4.5	18.8
1979	554	29.6	9.1	27.3	554	20.1	4.8	19.0
1980	536	28.9	8.0	26.9	536	20.4	4.8	19.3
1981	513	28.9	8.4	27.0	513	20.1	4.2	19.3
1982	434	29.0	8.0	26.5	434	20.7	4.9	19.9
1983	386	29.1	7.9	27.0	386	20.9	4.9	20.0
1984	461	28.9	7.5	27.2	461	21.0	4.9	20.4
1985*	386	29.5	7.5	27.7	386	21.7	6.3	20.6
1986*	230	29.4	9.2	26.5	230	21.9	5.9	20.5
1987*	227	28.9	9.1	26.6	227	22.2	5.5	20.7
1988*	419	29.4	7.4	28.0	419	21.9	5.0	20.8
1989	476	30.4	8.2	29.0	476	22.2	4.9	21.0
1990	412	31.3	8.6	30.1	412	22.7	6.1	21.7
1991	397	30.5	8.4	29.5	397	22.7	5.5	21.7
1992	438	30.7	7.9	29.7	438	22.9	5.1	21.8
1993	338	31.6	9.2	29.0	338	23.5	5.8	22.0
1994	326	30.5	8.8	29.0	326	23.5	6.5	22.0
1995	318	31.4	8.8	30.0	318	23.2	6.7	21.0
1996	334	30.1	7.9	28.0	334	23.4	6.4	22.0

*Those brides and grooms not belonging to the DSS area are excluded from the analysis because their data on age for the period 1985-87 and marital status for the year 1988 were not collected.

Table S.6: Remarriage Rates of Males and Females, 1975-1996
(per 1000 divorced and widowed population)

	Remarriage Rate of Males			Remarriage Rate of Females		
Year	Divorced	Widowed	Total	Divorced	Widowed	Total
1975-80	631.3	155.1	388.9	355.5	6.0	57.7
N	(3900)	(4042)	(7942)	(6158)	(35479)	(41637)
1981-86	482.2	97.6	253.4	264.5	4.2	46.5
N	(4554)	(6689)	(11243)	(8141)	(42044)	(50185)
1987-92	419.9	63.5	166.1	253.7	2.8	35.8
N	(3092)	(7650)	(10742)	(6122)	(40306)	(46428)
1993-96	483.9	110.5	250.2	231.3	3.1	30.3
N	(2112)	(3531)	(5643)	(5232)	(38641)	(43873)
1975-96	499.9	103.3	254.1	260.0	3.7	38.3
N	(13658)	(21912)	(35570)	(25653)	(156470)	(182123)

Table S.7: Remarriages of Divorced and Widowed Grooms and Brides as a Percentage of all Marriages During 1975-1996

Year	Number of marriages	Percent remarried			
		Divorced grooms	Divorced brides	Widowed grooms	Widowed brides
1975	1648	22.1	17.9	6.0	1.8
1976	2739	19.2	15.4	4.5	1.8
1977	2931	17.5	17.2	5.2	1.8
1978	3054	16.9	15.5	3.5	1.0
1979	3281	16.5	15.1	4.3	1.5
1980	2871	16.3	16.3	4.6	1.5
1975-80	16524	17.7	16.1	4.6	1.5
1981	3240	15.6	15.7	4.1	0.8
1982	2621	16.0	13.7	3.7	1.6
1983	2689	15.8	14.9	4.9	1.2
1984	2865	13.2	14.6	5.4	1.2
1985*	2751	14.2	13 4	3.9	1.1
1986*	1744	12.2	11.6	3.8	0.9
1981-86	15910	14.7	14.2	4.4	1.1
1987*	1511	13.3	12.8	3.6	1.3
1988*	765	11.0	14.4	2.9	2.1
1989	3070	12.1	14.2	3.6	0.4
1990	3054	10.2	12.9	4.2	1.2
1991	2849	9.8	13.1	3.8	0.8
1992	2988	11.2	11.7	4.7	1.3
1987-92	14237	11.1	13.0	3.9	1.0
1993	2702	9.8	11.0	3.6	1.3
1994	2795	9.1	11.1	3.9	1.2
1995	2505	10.0	12.3	3.6	1.0
1996	2722	9.3	10.8	3.5	0.9
1993-96	10724	9.5	11.3	3.7	1.1

*Those brides and grooms not belonging to the DSS area are excluded from the analysis because their data on age for the period 1985-87 and marital status for the year 1988 were not collected.

Figure S.1: First Marriage Rates of Males and Females, 1975-1984 and 1989-1996

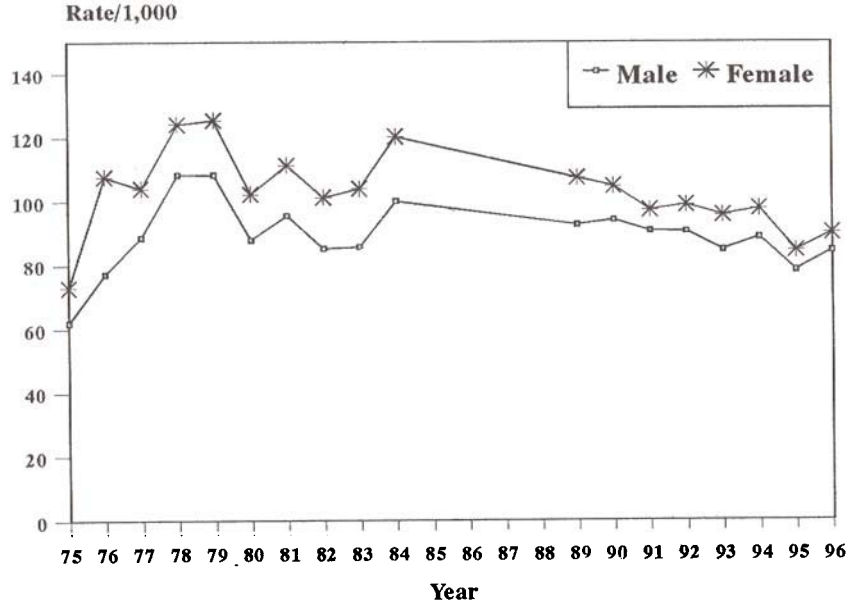


Figure S.2: Mean Age at First Marriage of Grooms and Brides, 1975-1996

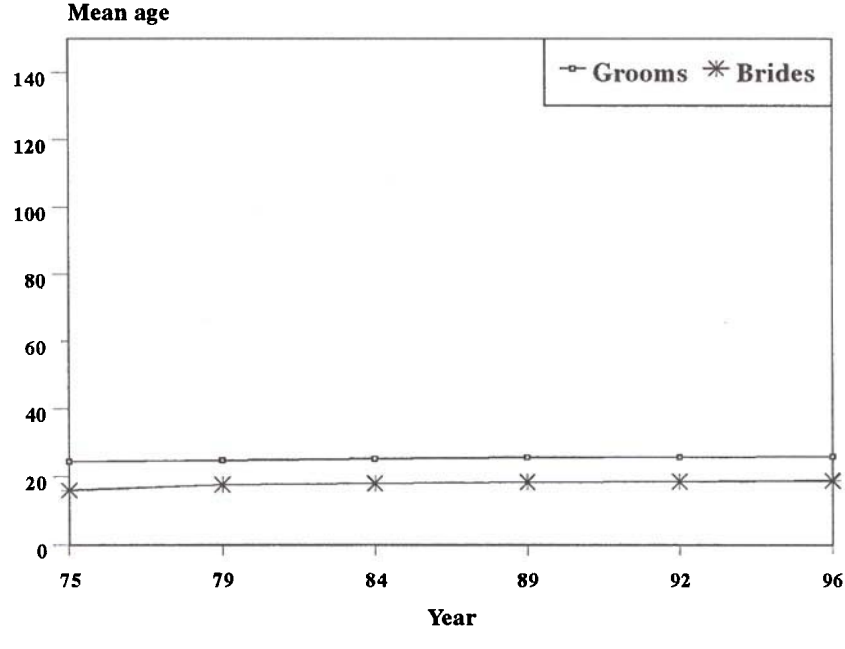


Figure S.3a: Age-specific Divorce Rates of Males, 1975-84 and 1989-96

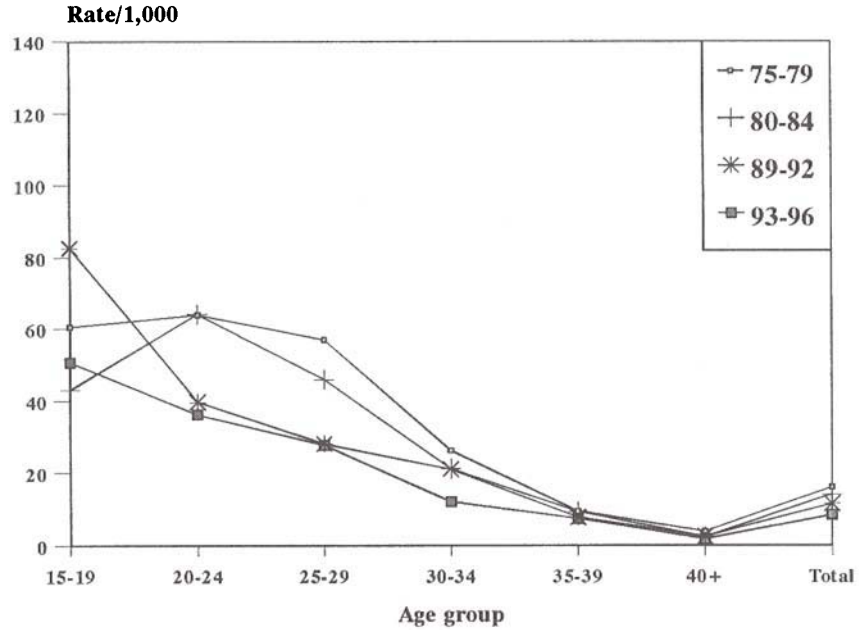


Figure S.3b: Age-specific Divorce Rates of Females, 1975-84 and 1989-96

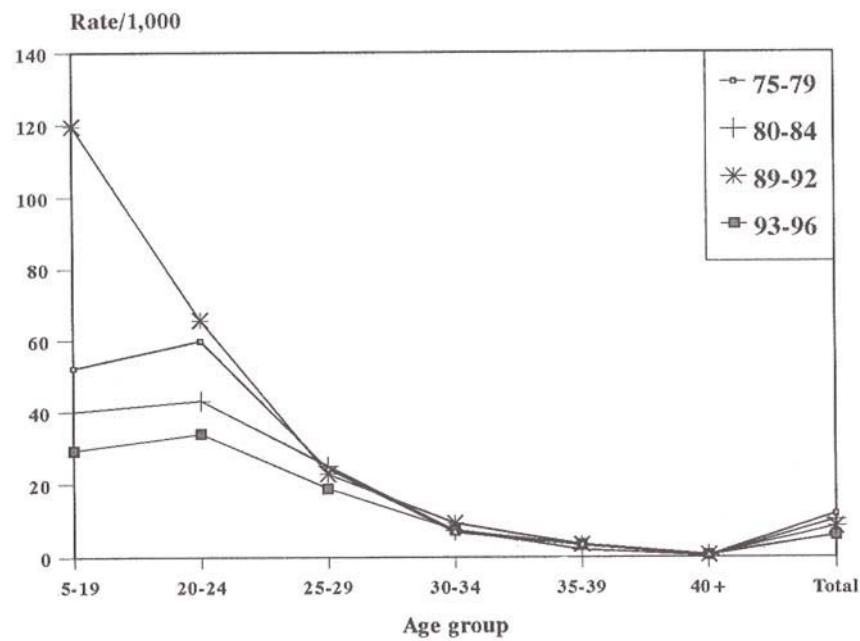


Figure S.4: Mean Age of Husband and Wife at the Time of Divorce, 1975-96

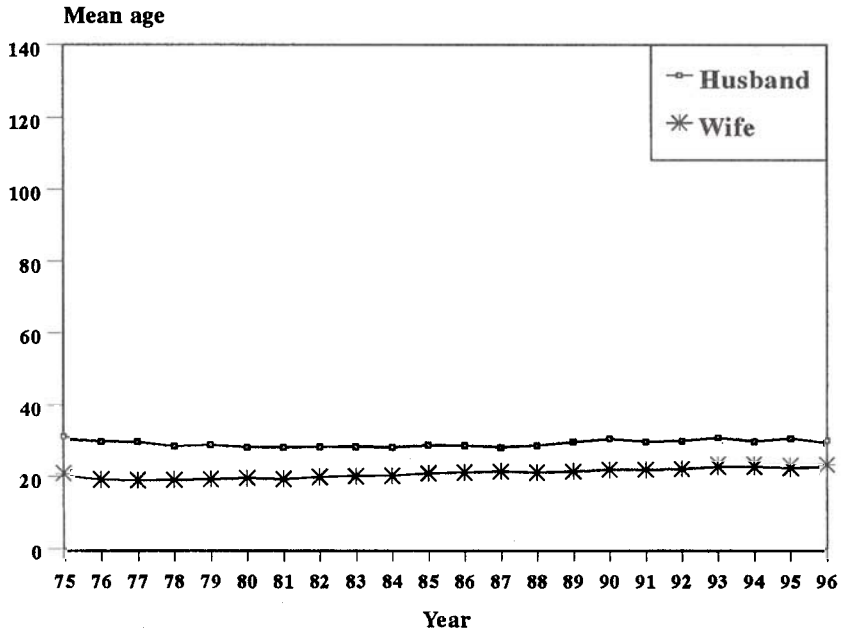


Figure S.5a: Remarriage Rates of Males, 1975-96

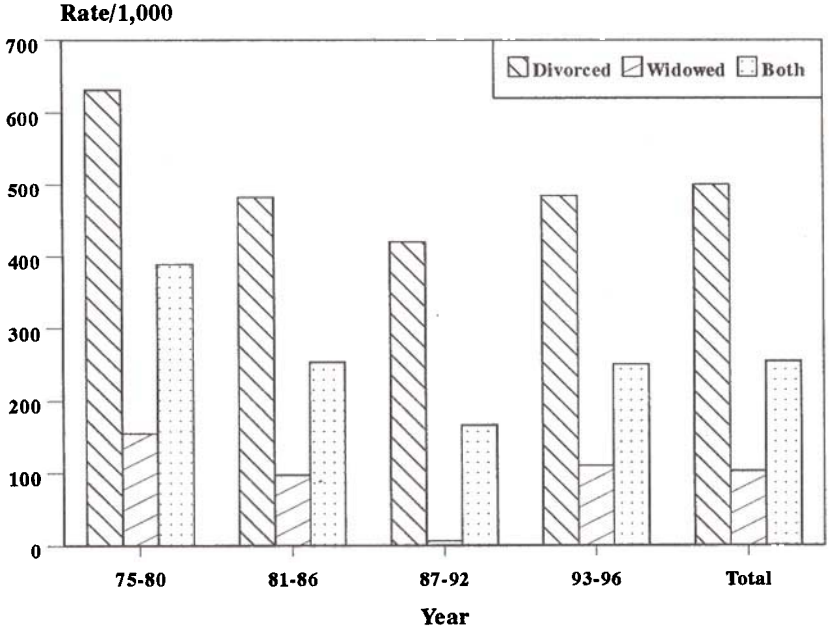


Figure S.5b: Remarriage Rates of Females, 1975-96

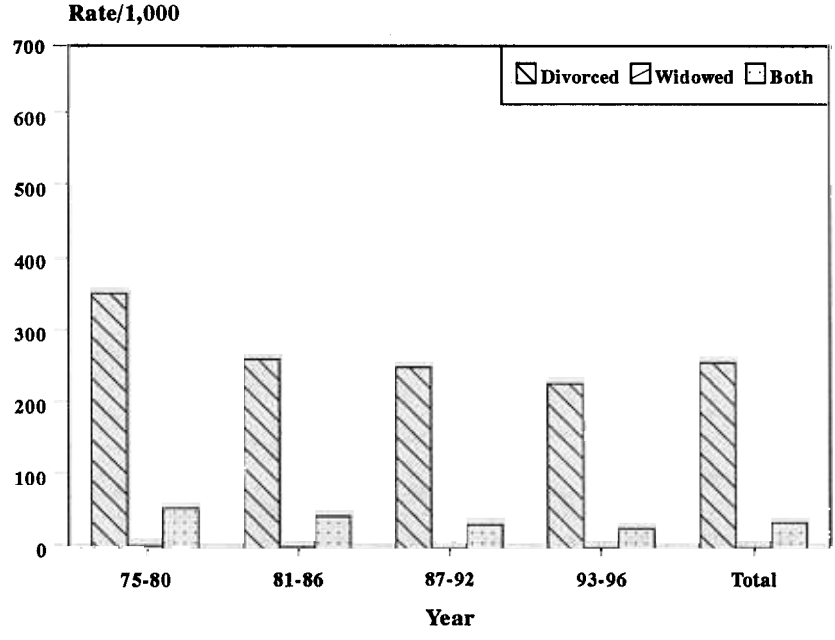


Figure S.6a: Remarriages of Divorced Grooms and Brides as a Percentage of All Marriages, 1975-96

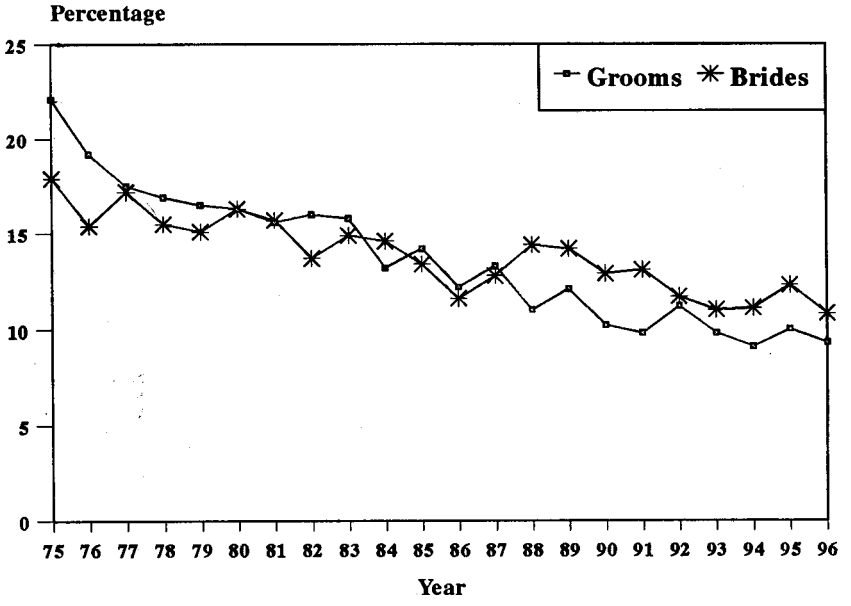
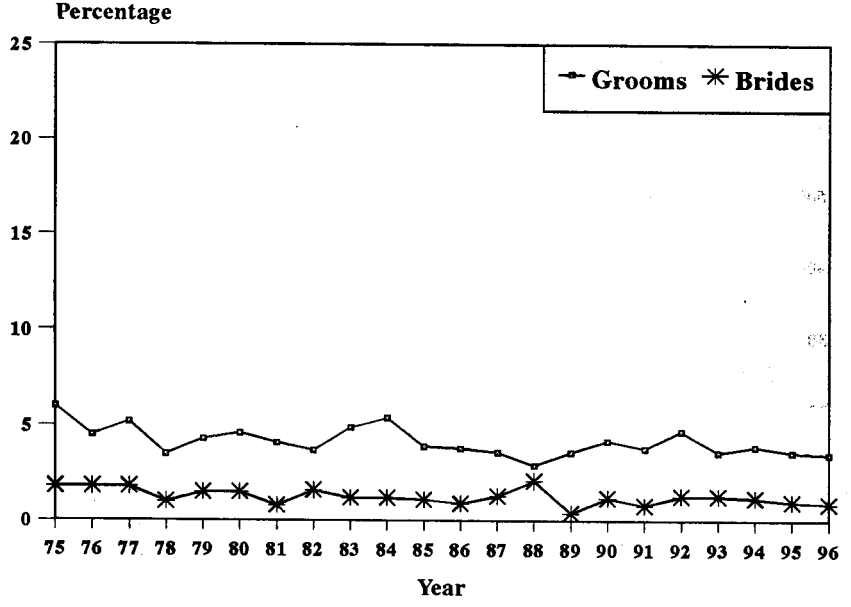


Figure S.6b: Remarriages of Widowed Grooms and Brides as a Percentage of All Marriages, 1975-96



Appendix-A

Names and Codes of Villages in the DSS Area, 1996

	MCH-FP area				Comparison area			
Block*	Village code	Village name	Village code	Village name	Village code	Village name	Village code	Village name
	D	Charmukundi	V59	Doshpara	A	Uddamdi	V78	Soladana
	W	Kaladi	V60	Suvankardi	B	Charmasua	V79	Pitambordi
	V10	Dhakirgaon	V61	Munsabdi	C	Sarderkandi	V80	Daribond
A	V11	Nabakalash	V62	Shilmondi	F	Sepoykandi	V90	Narinda
	V31	Dighaldi	V72	Upadi	G	Thatalia	V95	Baluchar
	V32	Mobarakdi			J	Char Harigope	V96	Rampur
					U	Baispur	V97	Dhanagoda
	H	Lamchari	V26	Narayanpur	V01	Kadamtali	V98	Santoshpur
	V12	Bhangerpar	V56	Palipara	V02	Nilokhi	V99	Baluakandi
	V13	Baburpara	V82	Dhanarpar	V03	Char Nilokhi	VB1	Taltoli
	V19	Lakshmipur	V83	Padmapal	V04	Char Pathalia	VB2	Sree Rayerchar
B	V20	Dagorpur	V85	Bhanurpara	V05	Gazipur	VB3	Rayerkandi
	V21	Khadergaon	V87	Hurmaisha	V06	Fatepur	VB4	Ramdaspur
	V22	Beloti	VB12	Nagda	V07	Nayakandi	VB5	Thakurpara
	V23	Baluchar	VB13	Naogaon	V08	Goalbhar	VB6	Sarkerpara
	V24	Machuakhal			V09	Naburkandi	VB7	Mirpur
					V14	Enayetnagar	VB8	Farazikandi
	K	Shahpur	V40	Masunda	V35	Durgapur	VB9**	Ramanathgonj
	L	Tatkhana	V41	Paton	V36	Ludhua	VB10	South Rampur
	M	Char Nayergaon	V42	Adhara (South)	V37**	Charputia	D28	Bazarkhola
	N	Aswinpur	V43	Kanachak	V38	Galimkha	D29	Kirtonkhola
	O	Nayergaon	V44	Panchdona	V45	Bakchar	D30	Banuakandi
	P	Titerkandi	V64	Kawadi	V46	Silinda	D31	Harina Bazarkhola
	Q	Char Shibpur	V86	Adhara	V47	Tulatali	D32	Khalisha
	V27	Panchghoria	V88	Datikara	V48	Gangkandi	D33	Nayanagar
	V28	Khidirpur	VB11	Mehron	V49	Harina Bhabanipara	D34	Saidkharkandi
	V30	Harion	D100	Barogaon			D35	Molla Kandi
	V39	Gobindapur	D101	Naojan	V50	Bakharpur	D88	Sankibhanga
					V51	Induriakandi	D89	Sankibangha
	R	Nandalalpur	V52	Nayakandi	V53	Chhoto Haldia Namapara		
	S	Tatua	V54	Balakandi	V58**	Mohishmari	D90	Zahirabaj
	T	Amuakanda	V55	Induria	V65	Nayachar	D91**	North Joypur
	V15	Bhati Rasulpur	V57	Baluchar	V66	Thatalia	D92**	West Joypur
	V16	Binandapur	V63	Islamabad	V68	Sobahan	D93	Maizkandi
D	V17	Hatighata		(East)	V69**	Naobangha	D94	Hazipur
	V18	Torkey	V67	Majlishpur	V70**	South Joypur	D95	Tapaderpara
	V25	Char Pathalia	V81	Sonaterkandi	V71	Khamarpara	D96	Rampur
	V29	Shibpur(South)	V84	Shanbajkandi	V73	Sadardia	D97	Nayakandi
	V33	Shibpur(North)	V89	Islamabad	V74	Ketundia	D98	Bara Haldia
	V34	Satparia		(Middle)	V75	Mukundia	D99	Mandertoli
					V76	Chosoi		

*Division by block applies only to the MCH-FP area
**Lost due to river erosion.

Appendix-B

Mid-year Population, Birth, and Deaths by Village, 1996

Village code*	Popula-tion	Live births	Deaths	Birth rate	Death rate
D	1905	37	12	19.4	6.3
W	4012	93	16	23.2	4.0
V10	1642	35	12	21.3	7.3
V11	1896	38	10	20.0	5.3
V31	8628	203	62	23.5	7.2
V32	2710	67	12	24.7	4.4
V59	1101	27	8	24.5	7.3
V60	891	26	5	29.2	5.6
V61	657	14	4	21.3	6.1
V62	875	18	11	20.6	12.6
V72	6079	166	58	27.3	9.5
Block A	30396	724	210	23.8	6.9
H	1272	33	16	25.9	12.6
V12	545	10	3	18.3	5.5
V13	687	15	11	21.8	16.0
V19	2858	66	15	23.1	5.2
V20	1202	27	10	22.5	8.3
V21	481	13	2	27.0	4.2
V22	518	7	3	13.5	5.8
V23	498	6	5	12.0	10.0
V24	2722	77	17	28.3	6.2
V26	2661	46	18	17.3	6.8
V56	1456	35	8	24.0	5.5
V82	1508	33	9	21.9	6.0
V83	534	8	1	15.0	1.9
V85	452	17	6	37.6	13.3
V87	631	14	6	22.2	9.5
VB12	4121	106	28	25.7	6.8
VB13	4589	111	46	24.2	10.0
Block B	26735	624	204	23.3	7.6

(continued)

Appendix-B (cont.)

Village code	Popula-tion	Live births	Deaths	Birth rate	Death rate
K	900	22	3	24.4	3.3
L	495	7	4	14.1	8.1
M	176	5	0	28.4	0.0
N	2070	29	13	14.0	6.3
O	1532	42	11	27.4	7.2
P	1955	33	19	16.9	9.7
Q	361	12	5	33.2	13.9
V27	851	20	6	23.5	7.1
V28	1415	30	7	21.2	4.9
V30	568	14	2	24.6	3.5
V39	321	7	1	21.8	3.1
V40	726	12	6	16.5	8.3
V41	1661	26	9	15.7	5.4
V42	738	12	4	16.3	5.4
V43	836	22	15	26.3	17.9
V44	591	24	5	40.6	8.5
V64	4512	86	34	19.1	7.5
V86	792	7	3	8.8	3.8
V88	487	9	1	18.5	2.1
VB11	2494	57	23	22.9	9.2
D100	3171	72	25	22.7	7.9
D101	1272	30	12	23.6	9.4
Block C	27924	578	208	20.7	7.4
R	1373	40	12	29.1	8.7
S	932	21	7	22.5	7.5
T	1551	40	14	25.8	9.0
V15	623	11	3	17.7	4.8
V16	792	10	8	12.6	10.1
V17	1067	19	5	17.8	4.7
V18	3724	77	25	20.7	6.7
V25	1175	27	6	23.0	5.1
V29	443	13	9	29.3	20.3
V33	467	8	4	17.1	8.6
V34	791	18	5	22.8	6.3
V52	220	5	3	22.7	13.6
V54	647	15	7	23.2	10.8
V55	515	5	7	9.7	13.6
V57	1027	26	12	25.3	11.7
V63	1935	35	19	18.1	9.8
V67	596	11	5	18.5	8.4
V81	664	22	5	33.1	7.5
V84	2244	45	21	20.1	9.4
V89	1390	29	15	20.9	10.8
Block D	22176	477	192	21.5	8.7
MCH-FP area	107231	2403	814	22.4	7.6

(continued)

Appendix-B (cont.)

Village code	Population	Live births	Deaths	Birth rate	Death rate
A	3059	99	22	32.4	7.2
B	2124	49	14	23.1	6.6
C	3984	116	35	29.1	8.8
F	1395	35	11	25.1	7.9
G	2624	81	27	30.9	10.3
J	612	16	4	26.1	6.5
U	8321	229	54	27.5	6.5
V01	567	11	5	19.4	8.8
V02	528	19	2	36.0	3.8
V03	656	11	9	16.8	13.7
V04	313	4	1	12.8	3.2
V05	3325	92	29	27.7	8.7
V06	2386	71	20	29.8	8.4
V07	368	11	0	29.9	0.0
V08	1251	25	11	20.0	8.8
V09	1160	15	8	12.9	6.9
V14	842	25	8	29.7	9.5
V35	3815	118	40	30.9	10.5
V36	5269	135	42	25.6	8.0
V37	0	0	0	0	0
V38	1693	51	10	30.1	5.9
V45	1120	21	7	18.8	6.3
V46	415	11	4	26.5	9.6
V47	1812	48	23	26.5	12.7
V48	590	10	1	16.9	1.7
V49	1300	31	11	23.8	8.5
V50	157	6	1	38.2	6.4
V51	894	29	7	32.4	7.8
V53	3132	83	25	26.5	8.0
V58	0	0	0	0	0
V65	803	20	3	24.9	3.7
V66	870	22	11	25.3	12.6
V68	993	28	9	28.2	9.1
V69	0	0	0	0	0
V70	0	0	0	0	0
V71	474	11	8	23.2	16.9
V73	787	19	4	24.1	5.1
V74	1404	33	7	23.5	5.0
V75	390	6	4	15.4	10.3
V76	1702	48	11	28.2	6.5
V78	257	3	2	11.7	7.8
V79	328	6	2	18.3	6.1
V80	1169	25	10	21.4	8.6
V90	1208	27	4	22.4	3.3
V95	1922	66	16	34.3	8.3
V96	614	19	6	30.9	9.8
V97	436	11	3	25.2	6.9
V98	182	5	0	27.5	0.0
V99	652	19	4	29.1	6.1

(continued)

Appendix-B (cont.)

Village code	Population	Live births	Deaths	Birth rate	Death rate
VB1	1150	28	13	24.3	11.3
VB2	1109	26	10	23.4	9.0
VB3	3047	85	25	27.9	8.2
VB4	3821	101	35	26.4	9.2
VB5	998	27	12	27.1	12.0
VB6	618	10	3	16.2	4.9
VB7	310	10	1	32.3	3.2
VB8	1386	32	10	23.1	7.2
VB9	0	0	0	0	0
VB10	2701	88	17	32.6	6.3
D28	1199	29	11	24.2	9.2
D29	161	3	2	18.6	12.4
D30	734	27	15	36.8	20.4
D31	1078	23	12	21.3	11.1
D32	707	25	5	35.4	7.1
D33	1118	36	6	32.2	5.4
D34	1378	35	7	25.4	5.1
D35	663	9	3	13.6	4.5
D88	1372	33	10	24.1	7.3
D89	1272	26	8	20.4	6.3
D90	1045	27	5	25.8	4.8
D91	0	0	0	0	0
D92	0	0	0	0	0
D93	1281	36	9	28.1	7.0
D94	1410	41	12	29.1	8.5
D95	496	13	1	26.2	2.0
D96	863	26	6	30.1	7.0
D97	801	13	7	16.2	8.7
D98	3316	89	16	26.8	4.8
D99	2138	59	21	27.6	9.8
Comparison area	104075	2777	817	26.7	7.9

*See village name in Appendix-A

Appendix-C

Life Table Equations

1 $$ {}_nq_x = \frac{{}_nm_x}{{}^1/_n + {}_nm_x\,[\,{}^1/_2 + {}^n/_{12}\,({}_nm_x - \ln C)\,]} $$

2 $$ \ell_0 = 100{,}000 $$

$$ \ell_x = (1 - {}_nq_{x-1})\,\ell_{x-n} $$

3. $$ L_0 = 0.276\ell_0 + 0.724\ell_1 $$

$$ L_1 = 0.410\ell_1 + 0.590\ell_2 $$

$$ L_i = \tfrac{1}{2}\,(\ell_i + \ell_{i+1}),\quad i = 2,\ 3,\ 4 $$

$$ {}_nL_x = \frac{{}_nd_x}{{}_nm_x} \quad \text{for } 5 \le x \le 80 $$

$$ {}_\infty L_{85} = \frac{\ell_{85}}{{}_\infty m_{85}} \quad \text{for the last age group 85+} $$

4. $$ \mathring{e}_x = \frac{T_x}{\ell_x} \quad \text{where } T_x = \sum_{y=x}^{\infty} L_y $$

Note: Greville's method, as suggested in Shryock, H.S., Siegel, J.S., and Associates, The Methods and Materials of Demography (revised), U.S. Dept. of Commerce, Bureau of the Census, 1975, Vol. II p.414 and pp. 444-5.

(ln C assumed to be 0.095; separation factors in Equation 3 correspond to an infant mortality rate of 100.)

Appendix-D

New Standard Populations

Age group (years)	Males	Females	Both sexes combined
0	2,558	2,471	2,396
1-4	9,513	9,231	9,490
5-9	10,824	10,472	10,649
10-14	9,954	9,609	9,783
15-19	9,989	9,627	9,809
20-24	9,477	9,137	9,308
25-29	8,458	8,204	8,332
30-34	7,355	7,175	7,266
35-39	6,585	6,476	6,531
40-44	5,326	5,253	5,290
45-49	4,341	4,335	4,338
50-54	3,994	4,061	4,027
55-59	3,486	3,604	3,544
60-64	2,912	3,179	3,045
65-69	2,167	2,591	2,378
70-74	1,424	1,837	1,629
75-79	958	1,406	1,181
80-84	429	814	602
85+	250	518	402
Total	100,000	100,000	100,000

Appendix-E

List of DSS Staff - 1997

Project Director

Dr. Jeroen K. van Ginneken

Matlab Field Station

Supervisory Staff:

Mr. A.M. Sarder, Manager
Mr. A.K.M. Nurul Islam, SFRO
Mr. Liaquat Ali Mondal, FRO
Mr. Md. Ismail, FRO
Mr. Md. Khalilur Rahman I, Asst. Supvr.

Senior Health Assistants:

Mr. Md. Sirajul Hoque
Mr. K.J.M. Mannan Pathan
Mr. M. Abdur Rashid Mia
Mr. M.A. Latif Patwari
Mr. A.F.M. Aminul Islam Khan
Mr. M.A. Mannan Bakaul
Mr. Monoranjan Das
Mr. Md. Aftekharuzzaman
Mr. Md. Mozammel Haque

Paramedic:
Mr. M. Monirul Alam Bhuiyan

Admin. Assistant:
Mr. A.K.M. Mozibul Hoque

Health Assistants:

Mr. M. Idris Ali Miah I
Mr. M. Abul Kashem
Mr. M. Idris Ali Miah II
Mr. Zahirul Hoque
Mr. Md. Nurul Haque
Mr. Fazlur Rahman
Mr. Golam Hossain
Mr. P.C. Chakraborty
Mr. Md. Jasimuddin
Mr. Nasir Ahmed
Mr. Alfaz Uddin A. Chowdhury
Mr. Md. Sadiquzzaman
Mr. Shah Mostafa Kamal
Mr. Sheikh Abdul Jabber
Mr. Md. A. Malek Patwari
Mr. Md. Monirul Hoque
Mr. Jabed Ali

Recorders

Ms. Shahana Ahmed, HA
Ms. Monowara Begum HA

Note: Besides these, 110 CHWs contributed to the DSS data collection.

Dhaka-based Staff

Dr. M. A. Kashem Shaikh
Mr. Saker A. Chowdhury
Ms. Lutfun Nahar
Mr. Md. Golam Mostafa
Mr. Sentu B. Gomes
Mr. M.A. Jalil Sarker
Ms. Rahima Mazhar
Mr. A.B.M. Delwar Hossain
Mr. Md. Kapil Ahmed
Mr. Sajal K. Saha
Mr. Harun-ur-Rashid
Ms. Habiba Rahman
Mr. Md. Khayrul Alam Khan
Mr. Md. Arifur Rahim
Ms. Nasrin Aktar
Mr. Birendra Nath Adhikary

(continued from inside of the front cover)

Database Server v 7.3 is loaded to the SUN that has 6.3GB of storage capacity and 556MB RAM. The AS/400 has 4GB of disk space, 32MB of RAM. ICDDR,B has a Centre-wide backbone, connecting all the divisions through a 900m long backbone for Internet and Intranet activities. Several departmental LANs as Application/Data Servers are connected to the central backbone. New on-line e-mail system with web browsing facility through backbone, including a Centre web page (www.icddrb.org) on own Server is provided for the researchers and scientists.

Dissemination and Information Services Centre: The Dissemination and Information Services Centre (DISC) provides access to the scientific literature on diarrhoeal diseases, nutrition, population studies, environmental and behavioural studies in general by means of Current Contents (Life Sciences and Clinical Medicine), MEDLINE, NUTRITION and POPLINE databases, books, bound journals, reprints of articles, documents, about 365 current periodicals, etc. DISC maintains several in-house databases for its users. DISC publishes the quarterly Journal of Diarrhoeal Diseases Research (and bibliography on diarrhoeal diseases within the Journal), two quarterly newsletters Glimpse (in English) and Shasthya Sanglap (in Bangali), a bimonthly bilingual staff news bulletin--the ICDDR,B News, one fortnightly DISC bulletin (current awareness service) working papers, scientific reports, special publications, monographs, etc.

Staff: The Centre currently has over 200 researchers and medical staff from more than ten countries doing research and providing expertise in many disciplines related to the Centre's areas of research. One thousand two hundred personnel are working in the Centre.

What is the Centre's Plan for the Future?

In the 37 years of its existence, ICDDR,B has evolved into a busy cosmopolitan research centre whose scientists have wide-ranging expertise. Future research will be directed toward finding cost-effective solutions to the health and population problems of the most disadvantaged people in the world. The Centre's Strategic Plan: "To The Year 2000" outlines work in the following key areas:

Child Survival: Diarrhoeal diseases are responsible for deaths of 3 million children every year. Acute and persistent diarrhoea and dysentery will remain priority areas for research on strategies for prevention, including modifications in personal and domestic hygiene behaviours, provision of appropriate water supply to and sanitation for the households, and the development of effective vaccines. The Centre's scientists will contribute to the improvement of the case management of diarrhoea based on better understanding of basic mechanisms, and national and international responses to epidemics. Risk factors for low birth rate and potential interventions, acute respiratory infections, nutritional deficiency states (including micronutrients), and immunization-preventable infectious diseases will also be examined, particularly as they interact with diarrhoea.

Population and Reproductive Health: The Centre has a long history of conducting pioneering research in the areas of population and family planning. The Centre played a key role in raising the contraceptive use rate among women of reproductive age in Bangladesh to almost 45% through technical assistance and operations research. So much so that the 1994 Cairo Conference hailed Bangladesh as a family planning success story. Matlab is now the model for MCH-FP programmes throughout the world, and the Centre is poised to make important contributions to maternal health and safe motherhood. In addition to continuing work in these areas, the Centre has initiated community-based research on reproductive health and STD/RTI/HIV infections.

Application and Policy: The Centre will continue to play a major part in improving both supply of and demand for existing health technologies, and in replicating the successful interventions piloted in its projects through health systems research. The Centre will increase its communication, dissemination and training efforts to influence international and national health policies in the areas of its expertise. ICDDR,B recognizes, and has given a high priority to, the need to transform research findings into actions.

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