DEMOGRAPHIC SURVEILLANCE SYSTEM — MATLAB

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Volume Seventeen

Registration of Demographic Events - 1986

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This report was prepared by the staff of the Demographic Surveillance System.

PREFACE

The International Centre for Diarrhoeal Disease Research, Bangladesh (ICDDR,B) is an autonomous, international, philanthropic, non-profit centre for research, education, training, and clinical service. The Centre is derived from the Cholera Research Laboratory (CRL). Its aims and objectives are to undertake and promote study, research, and dissemination of knowledge in diarrhoeal diseases and the directly related subjects of nutrition and fertility, with a view to developing improved health care methods and to prevent and control diarrhoeal diseases and improve public health programmes, especially in developing countries. The ICDDR,B issues an annual report, working papers, scientific reports, special publications, monographs, theses, dissertations, and a bi-monthly newsletter which demonstrates the type of research activities currently in progress. The views expressed in these publications are those of the authors, and do not necessarily represent the views of the ICDDR,B.

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SUMMARY

This report presents the vital registration data for events taking place in 1986 in Matlab, Bangladesh. These data were collected by the Demographic Surveillance System of the International Centre for Diarrhoeal Disease Research, Bangladesh. The registration area is divided into a Maternal and Child Health and Family Planning (MCH-FP) intervention area and a Comparison area receiving government services. In both areas the death rate continue to decrease in 1986; in the MCH-FP area the crude death rate was 9.9 while in the Comparison area it was 12.2. The decrease in mortality was primarily due to a decrease in neonatal deaths.

The birth rate fell in both areas; between 1985 and 1986, the crude birth rate fell from 34.6 to 33.6 in the MCH-FP area and from 42.6 to 39.6 in the Comparison area. Nuptiality patterns changed a little during 1986, with the median age at first marriage falling to 24.0 years for men and remaining at 18.4 years for women.

In-migration by both males and females increased by about 18 percent in 1986, while out-migration remained fairly constant. Due to the decrease in mortality and the increase in in-migration, which more than offset the decrease in fertility, there was 1.2 percent net increase in the population under surveillance in Matlab in 1986.

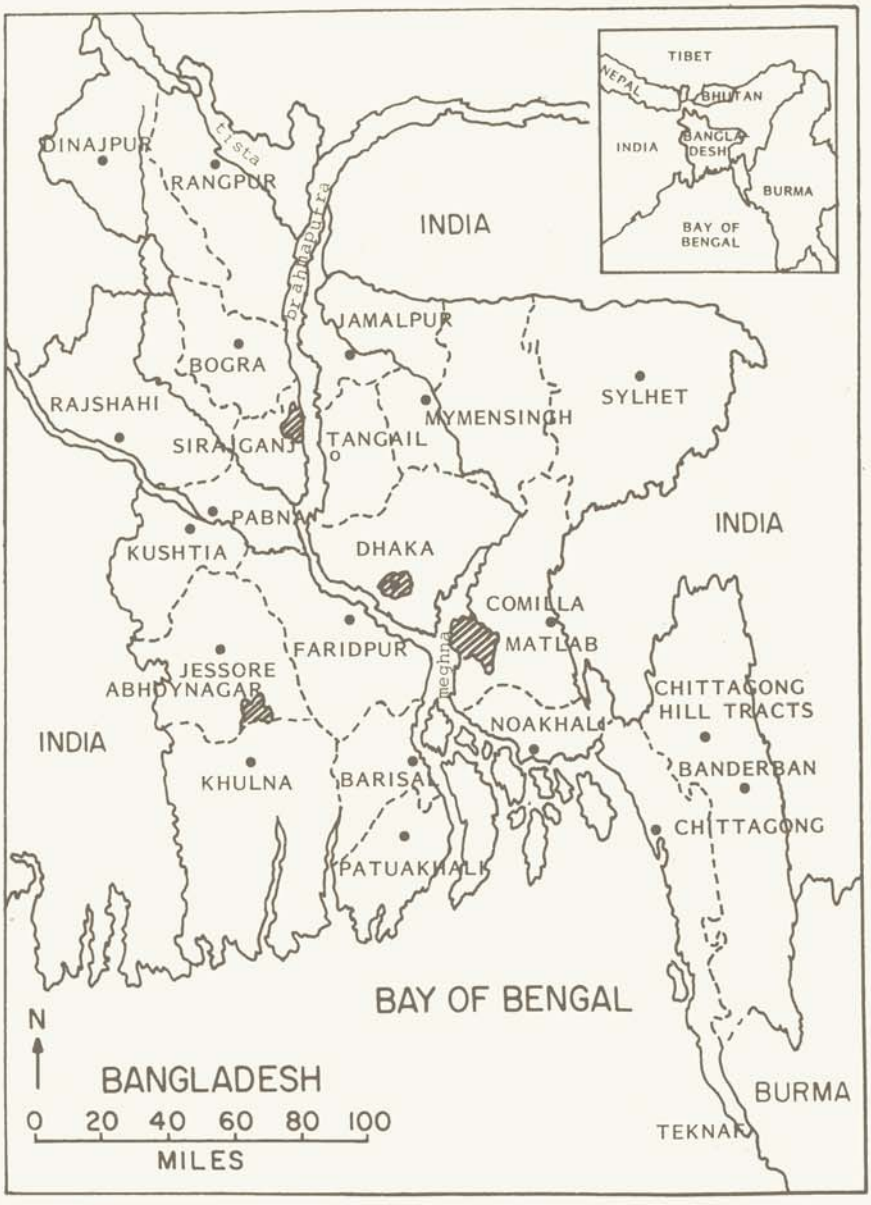
CHAPTER 1

INTRODUCTION

Since 1963 the International Centre for Diarrhoeal Disease Research, Bangladesh (ICDDR,B), formerly the Cholera Research Laboratory, has been conducting a health related research programme 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 programme. 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. Such information is gathered by 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) Programme 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).

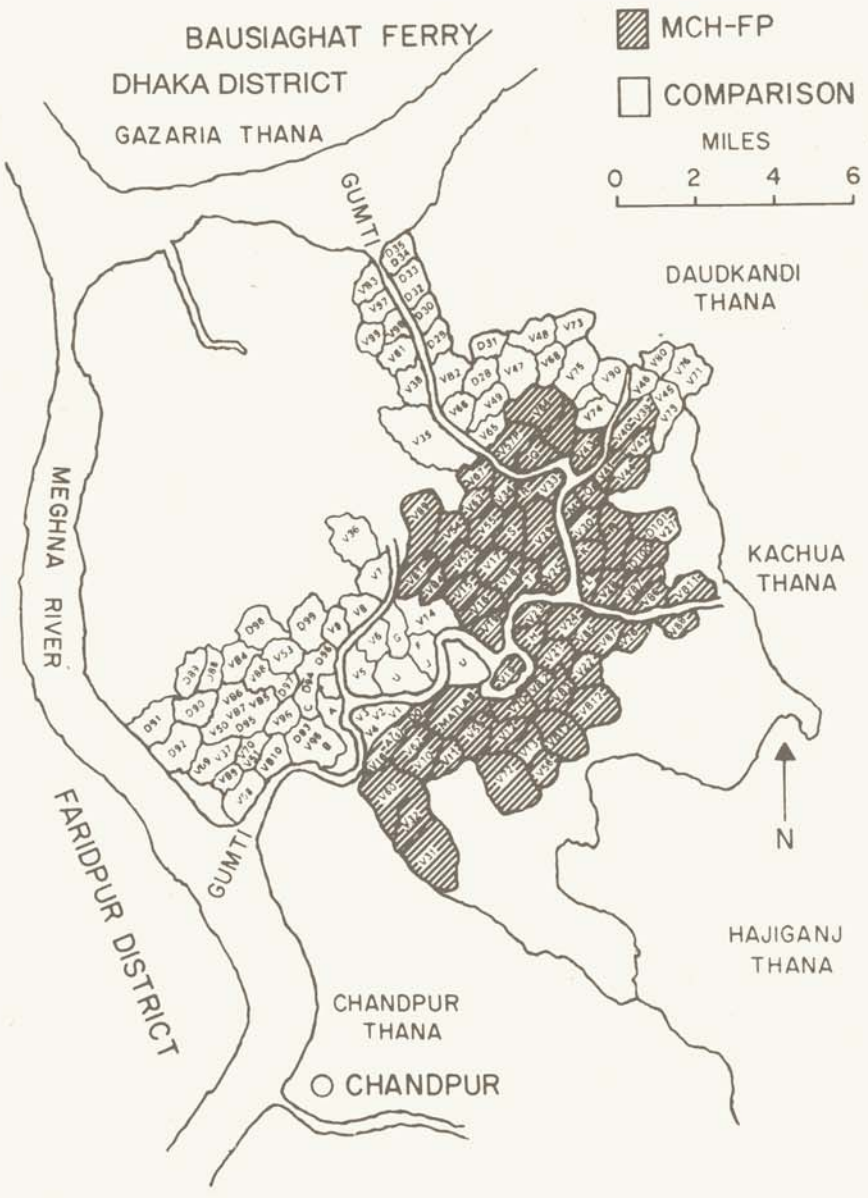
This is the seventeenth volume of a series of scientific reports of the Demographic Surveillance System produced by the ICDDR,B. Presented here are results obtained from the Matlab DSS in 1986, along with brief notes and explanations of the tables.

Figure 1.1: Map of Bangladesh showing the Study Area



Key: ▨ Study areas

Figure 1.2: Matlab Area showing Villages of Demographic Surveillance System, 1986



CHAPTER 2

POPULATION CHANGES

The mid-year population, as well as the demographic events registered in 1986 in the Maternal Child Health and Family Planning (MCH-FP) and the Comparison areas, are shown in Tables 2.2 through 2.5.

The crude birth rate in 1986 declined to 33.6 in the MCH-FP and 39.6 in the Comparison areas from the 1985 level of 34.4 in the MCH-FP and 42.6 in the Comparison areas. (In 1984 the crude birth rate had been 30.7 and 37.3 in the MCH-FP and the Comparison areas, respectively.) The crude death rates decreased to 9.9 and 12.2 in 1986 compared to 10.2 and 14.2 in 1985 in the MCH-FP and the Comparison areas, respectively. (In 1984 the crude death rates had been 13.4 and 17.3 in the MCH-FP and the Comparison areas, respectively.) These rates show that Matlab experienced a gradually decrease both fertility and mortality in 1986.

The numbers of in- and out-migrants registered in 1986 were 5,506 and 8,099 respectively, giving an in-migration rate of 28.3, an out-migration rate of 41.7, and a net migration rate of 13.3 per thousand population leaving the area. The net migration rate in 1986 was lower than that reported in 1985 or 1984.

The net population increase was 12.0 per thousand in 1986, while in 1985 it was 8.1 per thousand. This increase in population growth in 1986 was due to a 18 percent increase in the rate of in-migration, and a 10 percent decrease in the death rate.

There were 3,190 marriages registered in 1986, yielding a marriage rate of 16.4 per 1,000 population, which was higher than that of 1985. In 1986 there were 472 divorces, giving a ratio of 148.0 divorces per 1,000 marriages, which was higher than the 1985 rate of 139.2.

The population pyramid, presented in Figure 2.1, indicates that the age distribution was almost identical to those seen during the past four years. Age is recorded in total completed years as of the last birthday. For people born within the DSS area after 1966, age figures are exact. In cases where ages are unknown -- which may apply to in-migrants or to persons born before 1966 -- age ascertainment is made as accurately as possible by reference to any past event that may be remembered.

Table 2.1: Vital Statistics of the Matlab MCH-FP and Comparison Areas, 1979-1986

Vital rates (per 1000)	1979	1980	1981	1982	1983	1984	1985	1986
All deaths								
MCH-FP area	12.1	11.3	11.9	12.5	11.9	13.4	10.2	9.9
Comparison area	15.6	14.9	14.4	15.9	16.7	17.3	14.2	12.2
Both areas	13.8	13.1	13.1	14.2	14.3	15.3	12.2	11.0
Neonatal deaths*								
MCH-FP area	70.9	59.3	66.4	58,1	56.4	57.9	52.5	45.4
Comparison area	74.6	72.7	69.5	68.1	70.3	71.4	69.4	53.0
Both areas	73.0	66.6	68.1	63.5	64.0	65.3	61.7	49.4
Post-neonatal deaths*								
MCH-FP area	43.5	32.6	36.1	47.5	41.8	56.9	33.8	36 4
Comparison area	43.3	41.3	45.0	50.2	42.2	55.7	49.1	39.7
Both areas	43.4	37.3	41.0	49.0	42.0	56.2	42.1	38.2
Child deaths (1-4 yrs)								
MCH-FP area	17.1	18.6	19.1	18.8	21.9	23.1	16.4	13.4
Comparison area	26.2	25.4	24.8	27.4	35.3	39.2	24.6	20.7
Both areas	21.6	22.1	22.0	23.3	29.1	31.6	20.7	17.2
Births								
MCH-FP area	34.9	37.1	35.3	36.9	34.2	30.7	34.6	33.6
Comparison area	47.0	45.5	43.8	44.7	42.6	37.3	42.6	39.6
Both areas	40.9	41.2	39.5	40.7	38.3	34.0	38.5	36.5
Total fertility**								
MCH-FP area	4.9	5.1	4.8	5.0	4.5	4.0	4.5	4.3
Comparison area	6.9	6.7	6.3	6.3	6.1	5.1	6.0	5.5
Both areas	5.9	5.9	5.5	5.6	5.3	4.5	5.2	4.9
In-migration	33.1	29.7	27.3	24.5	24.6	24.2	23.9	28.3
Out-migration	40.8	36.6	35.0	26.5	35.8	42.7	42.1	41.7
Growth (%)	1.9	2.1	1.9	2.5	1.3	0.0	0.8	1.2
Natural increase								
MCH-FP area	22.9	25.8	23.4	24.3	22.3	17.3	24.4	23.7
Comparison area	31.4	30.6	29.4	28.8	25.8	20.0	28.4	27.4
Both areas	27.1	28.2	26.4	26.5	24.1	18.6	26.3	25.5

*Per 1000 live births.
**Per woman.

Table 2.2: Mid-year Population, Events Registered, and Population Changes in 1986

	Number			Rate per 1000		
	Total	Males	Females	Total	Males	Females
Total population as of 30 June 1986:	194286	98243	96043	-	-	-
MCH-FP area	98980	49854	49126	-	-	-
Comparison area	95306	48389	46917	-	-	-
Events registered (Jan - Dec 1986)						
Births						
MCH-FP area	3325	1691	1634	33.6	-	-
Comparison areas	3775	1881	1894	39.6	-	-
Both areas	7100	3572	3528	36.5	-	-
Deaths						
-Infant*						
MCH-FP	272	139	133	81.8	82.2	81.4
Comparison area	350	178	172	92.7	94.6	90.8
Both areas	622	317	305	87.6	88.7	86.5
-All deaths						
MCH-FP area	979	515	464	9.9	10.3	9.4
Comparison area	1167	575	592	12.2	11.9	12.6
Both areas	2146	1090	1056	11.0	11.1	11.0
In-Migration	5506	2272	3234	28.3	23.1	33.7
Out-migration	8099	3900	4199	41.7	39.7	43.7
Marriage**	3190	-	-	16.4	-	-
Divorce**	472	-	-	148.0	-	-
Population change (Jan to Dec 1986)						
Net-Migration	-2593	-1628	-965	-13.3	-16.6	-10.0
Natural increase						
MCH-FP area	2346	1176	1170	23.7	23.6	23.8
Comparison area	2608	1306	1302	27.4	27.0	27.8
Both areas	4954	2482	2472	25.5	25.3	25.7
Net increase	2361	854	1507	12.2	8.7	15.7

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

Table 2.3: Mid-year Population by Age and Sex, 1986

Age (years)	Number			Percent		
	Both sexes	Males	Females	Both sexes	Males	Females
All ages	194286	98243	96043	100.0	100.0	100.0
Under 1	6865	3494	3371	3.5	3.6	3.5
1-4	22990	11906	11084	11.8	12.1	11.5
1	5830	2923	2907	3.0	3.0	3.0
2	5758	3001	2757	3.0	3.1	2.9
3	5825	3094	2731	3.0	3.1	2.8
4	5577	2888	2689	2.9	2.9	2.8
5-9	27488	14496	12992	14.1	14.8	13.5
10-14	23540	12397	11143	12.1	12.6	11.6
15-19	22318	11329	10989	11.5	11.5	11.4
20-24	19197	9189	10008	9.9	9.4	10.4
25-29	14616	7422	7194	7.5	7.6	7.5
30-34	9896	4915	4981	5.1	5.0	5.2
35-39	7938	3653	4285	4.1	3.7	4.5
40-44	8412	3606	4806	4.3	3.7	5.0
45-49	7352	3476	3876	3.8	3.5	4.0
50-54	7273	3648	3625	3.7	3.7	3.8
55-59	5239	2696	2543	2.7	2.7	2.6
60-64	4314	2287	2027	2.2	2.3	2.1
65-69	2832	1501	1331	1.5	1.5	1.4
70-74	2020	1074	946	1.0	1.1	1.0
75-79	1106	620	486	0.6	0.6	0.5
80-84	588	339	249	0.3	0.3	0.3
85+	302	195	107	0.2	0.2	0.1

Table 2.4: Mid-year Population by Area, Age, and Sex, 1986

Age (years)	MCH-FP area			Comparison area		
	Both sexes	Males	Females	Both sexes	Males	Females
All ages	98980	49854	49126	95306	48389	46917
Under 1	3264	1673	1591	3601	1821	1780
1-4	10891	5576	5315	12099	6330	5769
1	2691	1340	1351	3139	1583	1556
2	2733	1382	1351	3025	1619	1406
3	2805	1487	1318	3020	1607	1413
4	2662	1367	1295	2915	1521	1394
5-9	13586	7154	6432	13902	7342	6560
10-14	12406	6489	5917	11134	5908	5226
15-19	11625	5845	5780	10693	5484	5209
20-24	10018	4706	5312	9179	4483	4696
25-29	7503	3786	3717	7113	3636	3477
30-34	5158	2566	2592	4738	2349	2389
35-39	4099	1885	2214	3839	1768	2071
40-44	4448	1900	2548	3964	1706	2258
45-49	3759	1784	1975	3593	1692	1901
50-54	3686	1893	1793	3587	1755	1832
55-59	2717	1420	1297	2522	1276	1246
60-64	2237	1197	1040	2077	1090	987
65-69	1418	763	655	1414	738	676
70-74	1074	584	490	946	490	456
75-79	581	325	256	525	295	230
80-84	329	193	136	259	146	113
85+	181	115	66	121	80	41

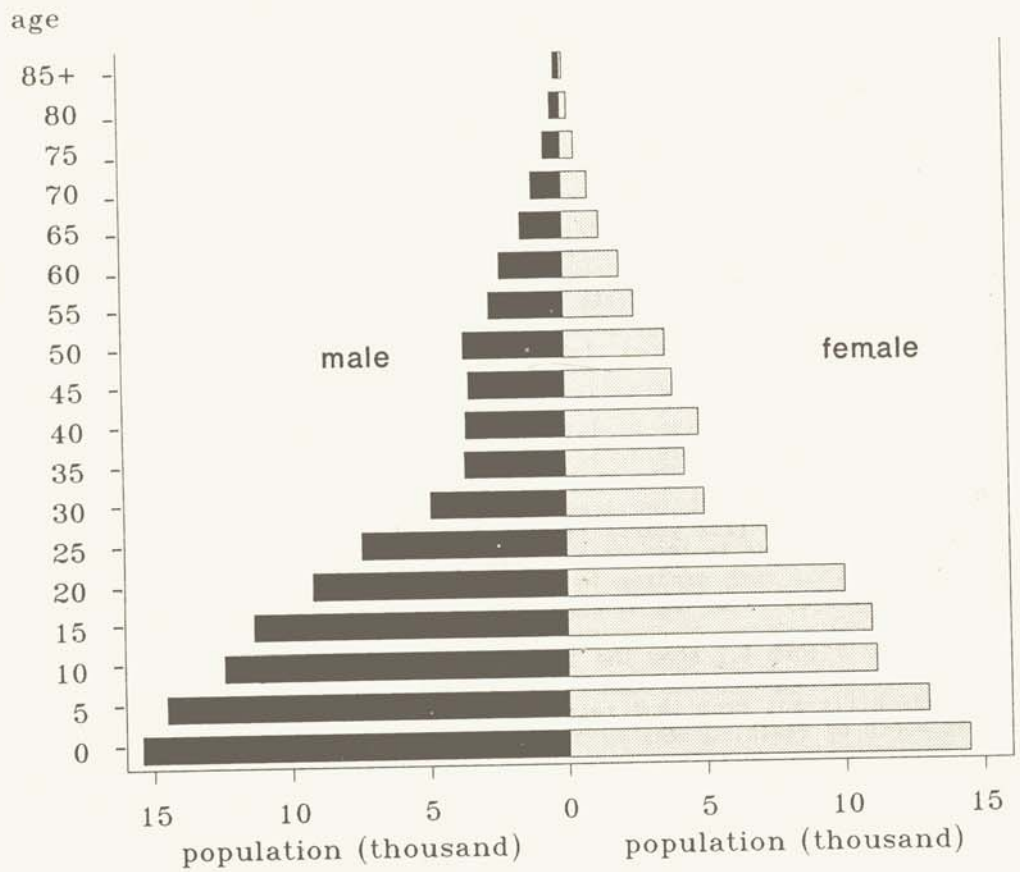
Table 2.5: Mid-year Population in MCH-FP Area by Age, Sex, and Block, 1986

Age (years)	Block A			Block B		
	Both sexes	Males	Females	Both sexes	Males	Females
All ages	26146	13200	12946	25226	12523	12703
Under 1	901	452	449	869	445	424
1-4	2907	1505	1402	2925	1503	1422
1	728	367	361	702	353	349
2	693	348	345	771	395	376
3	754	406	348	737	393	344
4	732	384	348	715	362	353
5-9	3611	1885	1726	3462	1813	1649
10-14	3247	1723	1524	3206	1649	1557
15-19	3145	1588	1557	2884	1440	1444
20-24	2743	1254	1489	2507	1130	1377
25-29	1974	1000	974	1832	913	919
30-34	1331	658	673	1278	589	689
35-39	1119	515	604	1047	473	574
40-44	1197	515	682	1084	440	644
45-49	954	508	446	947	424	523
50-54	888	474	414	925	452	473
55-59	667	343	324	715	368	347
60-64	523	290	233	607	329	278
65-69	341	175	166	350	208	142
70-74	284	139	145	281	166	115
75-79	168	89	79	151	86	65
80-84	88	52	36	99	52	47
85+	58	35	23	57	43	14

Table 2.5 (cont.): Mid-year Population in MCH-FP Area by Age, Sex, and Block, 1986

Age (years)	Block C			Block D		
	Both sexes	Males	Females	Both sexes	Males	Females
All ages	26263	13352	12911	21345	10779	10566
Under 1	817	417	400	677	359	318
1-4	2824	1469	1355	2235	1099	1136
1	718	375	343	543	245	298
2	714	365	349	555	274	281
3	713	373	340	601	315	286
4	679	356	323	536	265	271
5-9	3640	1902	1738	2873	1554	1319
10-14	3345	1737	1608	2608	1380	1228
15-19	3127	1581	1546	2469	1236	1233
20-24	2612	1267	1345	2156	1055	1101
25-29	2049	1049	1000	1648	824	824
30-34	1396	709	687	1153	610	543
35-39	1095	524	571	838	373	465
40-44	1192	521	671	975	424	551
45-49	996	475	521	862	377	485
50-54	1020	551	469	853	416	437
55-59	685	376	309	650	333	317
60-64	567	297	270	540	281	259
65-69	394	198	196	333	182	151
70-74	249	133	116	260	146	114
75-79	132	72	60	130	78	52
80-84	86	54	32	56	35	21
85+	37	20	17	29	17	12

Figure 2.1: Age Pyramid of the 1986 Mid-year Population



CHAPTER 3

MORTALITY

The age and sex specific deaths for 1986 are shown in Table 3.1. Of the 2,146 registered deaths, 47.4 percent occurred in children under age 5. This was less than in 1984 and 1985, when deaths under 5 comprised 53.4 percent and 52.5 percent of all deaths respectively. The 1986 infant mortality rate of 87.6 was much lower than the 1984 and 1985 rates of 121.5 and 103.8 respectively. In 1986 the male infant mortality rate was 88.7 and the female infant mortality rate was 86.5 (Table 3.4). A more pronounced difference was seen in 1984 and 1985, with the male rate 6 to 10 percent higher than the female rate. (In 1983, the infant mortality rate for females was higher than that of males.) In 1986, the overall death rates for males and females were 11.1 and 11.0 respectively. In most age groups death rates were higher in the Comparison area than in the MCH-FP area (Table 3.5).

Table 3.6 shows the basic life table parameters; the lx values are plotted in Figure 3.1. The expectation of life at birth was 58.5 years for males and 57.8 years for females (Table 3.7). It was higher in the MCH-FP area (59.9) than in the Comparison area (56.6) (Table 3.8). The difference in the expectation of life between the two areas was more pronounced for females (4.6 years) than for males (2.2 years) (Tables 3.9 and 3.10). The expectation of life at birth increased in 1986 compared to 1985 for both sexes in both areas, but this change was much greater in the Comparison area, where the continued increase for females is worthy of note.

Table 3.11 and Figure 4.1 show the seasonal variation of deaths by age. The number of deaths peaked in December for the total population; this seasonal pattern was different from that recorded for the year 1985 when January was the peak month of death. Deaths by cause are presented in Tables 3.12 through 3.13. Diarrhoea or dysentery were associated with 21 percent of all male deaths and 28 percent of all female deaths. In children of age 1-4 years, 37 percent of deaths among boys and 52 percent of deaths among girls were associated with diarrhoea or dysentery. These rates were almost the same as those observed in 1985.

Table 3.1: Deaths by Age and Sex, 1986

Age	Both sexes	Males	Females
All ages	2146	1090	1056
Under 1 year	622	317	305
Under 1 month	351	189	162
1-5 months	190	91	99
6-11 months	81	37	44
1-4 years	396	152	244
1	169	74	95
2	111	35	76
3	76	28	48
4	40	15	25
5-9	73	42	31
10-14	27	10	17
15-19	29	11	18
20-24	39	16	23
25-29	38	18	20
30-34	23	12	11
35-39	32	13	19
40-44	23	12	11
45-49	48	27	21
50-54	96	55	41
55-59	96	65	31
60-64	120	69	51
65-69	122	75	47
70-74	133	68	65
75-79	97	55	42
80-84	86	46	40
85+	46	27	19

Table 3.2: Deaths by Area, Age, and Sex, 1986

Age	MCH-FP area			Comparison area		
	Both sexes	Males	Females	Both sexes	Males	Females
All ages	979	515	464	1167	575	592
Under 1 year	272	139	133	350	178	172
Under 1 month	151	79	72	200	110	90
1-5 months	80	42	38	110	49	61
6-11 months	41	18	23	40	19	21
1-4 years	146	56	90	250	96	154
1	70	27	43	99	47	52
2	32	13	19	79	22	57
3	31	10	21	45	18	27
4	13	6	7	27	9	18
5-9	26	16	10	47	26	21
10-14	9	4	5	18	6	12
15-19	14	5	9	15	6	9
20-24	17	2	15	22	14	8
25-29	21	14	7	17	4	13
30-34	10	5	5	13	7	6
35-39	15	7	8	17	6	11
40-44	14	8	6	9	4	5
45-49	22	14	8	26	13	13
50-54	48	28	20	48	27	21
55-59	52	31	21	44	34	10
60-64	64	39	25	56	30	26
65-69	61	37	24	61	38	23
70-74	65	39	26	68	29	39
75-79	45	27	18	52	28	24
80-84	45	24	21	41	22	19
85+	33	20	13	13	7	6

Table 3.3: Deaths in MCH-FP Area by Age, Sex, and Block, 1986

Age	Block A			Block B		
	Both sexes	Males	Females	Both sexes	Males	Females
All ages	227	124	103	276	150	126
Under 1 year	59	30	29	70	42	28
Under 1 month	32	19	13	35	21	14
1-5 months	16	8	8	20	14	6
6-11 months	11	3	8	15	7	8
1-4 years	44	19	25	59	22	37
1	21	9	12	25	12	13
2	11	5	6	15	6	9
3	11	4	7	13	3	10
4	1	1	0	6	1	5
5-9	9	4	5	4	4	0
10-14	4	2	2	1	0	1
15-19	1	1	0	4	1	3
20-24	5	0	5	6	0	6
25-29	7	6	1	4	3	1
30-34	3	3	0	0	0	0
35-39	3	1	2	5	4	1
40-44	2	2	0	6	4	2
45-49	4	2	2	7	5	2
50-54	12	8	4	11	7	4
55-59	12	9	3	11	3	8
60-64	11	6	5	14	9	5
65-69	10	3	7	13	7	6
70-74	11	8	3	25	15	10
75-79	13	8	5	12	8	4
80-84	9	7	2	13	7	6
85+	8	5	3	11	9	2

Table 3.3 (cont.): Deaths in MCH-FP Area by Age, Sex, and Block, 1986

Age	Block C			Block D		
	Both sexes	Males	Females	Both sexes	Males	Females
All ages	263	136	127	213	105	108
Under 1 year	85	45	40	58	22	36
Under 1 month	51	30	21	33	9	24
1-5 months	26	11	15	18	9	9
6-11 months	8	4	4	7	4	3
1-4 years	27	10	17	16	5	11
1	16	5	11	8	1	7
2	5	2	3	1	0	1
3	4	2	2	3	1	2
4	2	1	1	4	3	1
5-9	10	6	4	3	2	1
10-14	3	2	1	1	0	1
15-19	7	2	5	2	1	1
20-24	2	2	0	4	0	4
25-29	5	2	3	5	3	2
30-34	6	2	4	1	0	1
35-39	3	1	2	4	1	3
40-44	2	0	2	4	2	2
45-49	4	1	3	7	6	1
50-54	11	8	3	14	5	9
55-59	13	7	6	16	12	4
60-64	20	11	9	19	13	6
65-69	19	15	4	19	12	7
70-74	18	8	10	11	8	3
75-79	11	7	4	9	4	5
80-84	12	5	7	11	5	6
85+	5	2	3	9	4	5

Table 3.4: Death Rates by Age and Sex, 1986
(per 1000 population)

Age	Both sexes	Males	Females
All ages	11.0	11.1	11.0
Under 1 year*	87.6	88.7	86.5
Under 1 month*	49.4	52.9	45.9
1-5 months*	26.8	25.5	28.1
6-11 months*	11.4	10.4	12.5
1-4 years	17.2	12.8	22.0
1	29.0	25.3	32.7
2	19.3	11.7	27.6
3	13.0	9.0	17.6
4	7.2	5.2	9.3
5-9	2.7	2.9	2.4
10-14	1.1	0.8	1.5
15-19	1.3	1.0	1.6
20-24	2.0	1.7	2.3
25-29	2.6	2.4	2.8
30-34	2.3	2.4	2.2
35-39	4.0	3.6	4.4
40-44	2.7	3.3	2.3
45-49	6.5	7.8	5.4
50-54	13.2	15.1	11.3
55-59	18.3	24.1	12.2
60-64	27.8	30.2	25.2
65-69	43.1	50.0	35.3
70-74	65.8	63.3	68.7
75-79	87.7	88.7	86.4
80-84	146.3	135.7	160.6
85+	152.3	138.5	177.6

*Rate per 1000 live births.

Table 3.5: Death Rates by Area, Age, and Sex, 1986
(per 1000 population)

Age	MCH-FP area			Comparison area		
	Both sexes	Males	Females	Both sexes	Males	Females
All ages	9.9	10.3	9.4	12.2	11.9	12.6
Under 1 year*	81.8	82.2	81.4	92.7	94.6	90.8
Under 1 month*	45.4	46.7	44.1	53.0	58.5	47.5
1-5 months*	24.1	24.8	23.3	29.1	26.0	32.2
6-11 months*	12.3	10.6	14.1	10.6	10.1	11.1
1-4 years	13.4	10.0	16.9	20.7	15.2	26.7
1	26.0	20.1	31.8	31.5	29.7	33.4
2	11.7	9.4	14.1	26.1	13.6	40.5
3	11.1	6.7	15.9	14.9	11.2	19.1
4	4.9	4.4	5.4	9.3	5.9	12.9
5-9	1.9	2.2	1.6	3.4	3.5	3.2
10-14	0.7	0.6	0.8	1.6	1.0	2.3
15-19	1.2	0.9	1.6	1.4	1.1	1.7
20-24	1.7	0.4	2.8	2.4	3.1	1.7
25-29	2.8	3.7	1.9	2.4	1.1	3.7
30-34	1.9	1.9	1.9	2.7	3.0	2.5
35-39	3.7	3.7	3.6	4.4	3.4	5.3
40-44	3.1	4.2	2.4	2.3	2.3	2.2
45-49	5.9	7.8	4.1	7.2	7.7	6.8
50-54	13.0	14.8	11.2	13.4	15.4	11.5
55-59	19.1	21.8	16.2	17.4	26.6	8.0
60-64	28.6	32.6	24.0	27.0	27.5	26.3
65-69	43.0	48.5	36.6	43.1	51.5	34.0
70-74	60.5	66.8	53.1	71.9	59.2	85.5
75-79	77.5	83.1	70.3	99.0	94.9	104.3
80-84	136.8	124.4	154.4	158.3	150.7	168.1
85+	182.3	173.9	197.0	107.4	87.5	146.3

*Rate per 1000 live births.

Figure 3.1: Probability of Survival from Birth to Age(x) by Sex, 1986

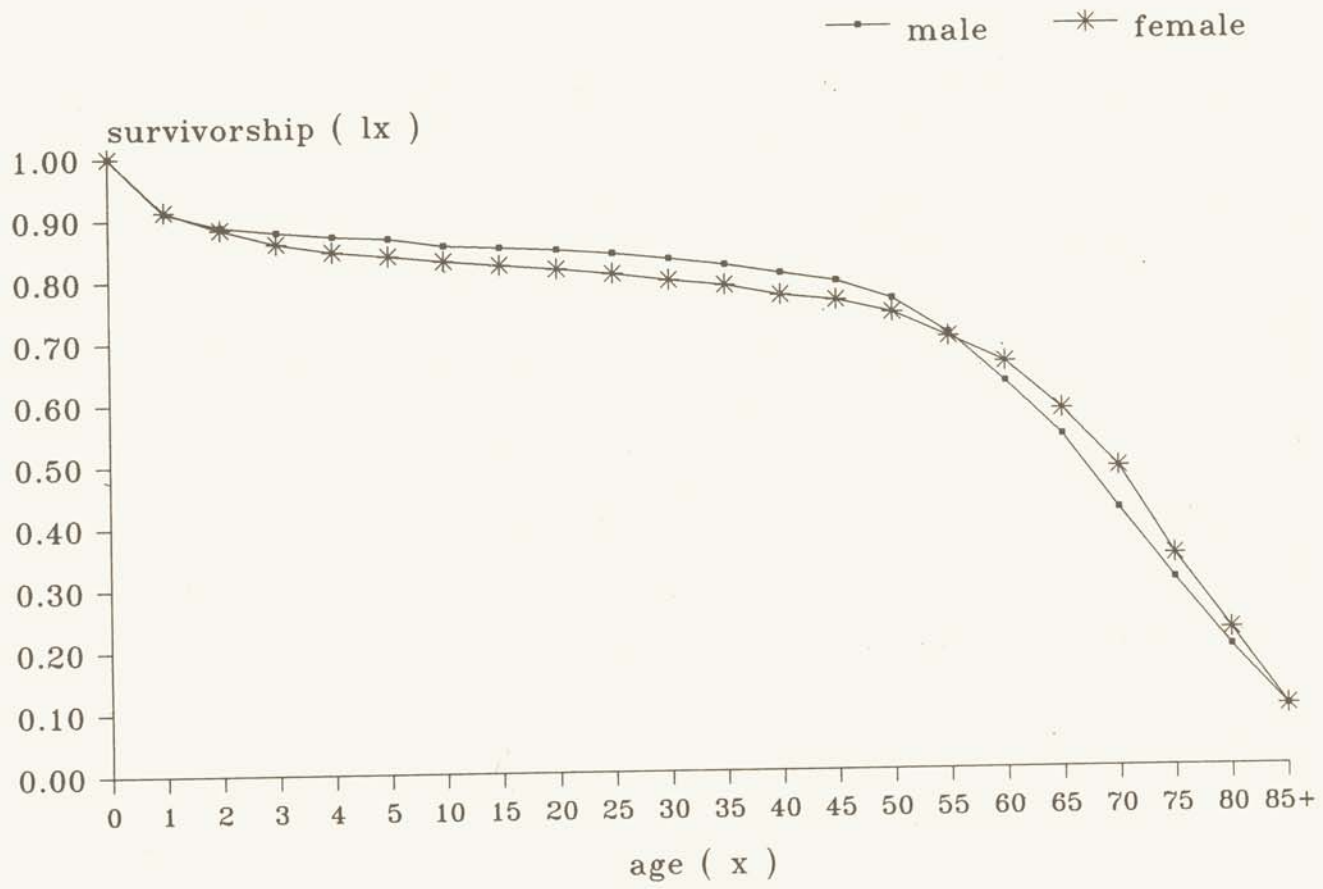


Table 3.6: Abridged Life Table, 1986

Age (years)	1000_nq_x	l_x	L_x	e^0
0	87.6	100000	93657	58.1
1	28.6	91239	89701	62.7
2	19.1	88632	87786	63.5
3	13.0	86939	86376	63.8
4	7.1	85812	85506	63.6
5	13.2	85199	423401	63.0
10	5.7	84075	419265	58.9
15	6.5	83594	416721	54.2
20	10.1	83052	413325	49.5
25	12.9	82213	408612	45.0
30	11.6	81150	403587	40.5
35	20.0	80212	397360	36.0
40	13.6	78610	390587	31.7
45	32.2	77542	381938	27.1
50	64.0	75049	364050	22.9
55	87.9	70244	336776	19.3
60	130.5	64072	300627	15.9
65	195.3	55710	252530	12.8
70	283.7	44831	193138	10.3
75	360.1	32115	131842	8.4
80	529.4	20552	74395	6.7
85+	1000.0	9671	63492	6.6

Table 3.7: Abridged Life Tables by Sex, 1986

Age (years)	Males				Females			
	1000_nq_x	l_x	L_x	e^0	1000_nq_x	l_x	L_x	e^0
0	88.7	100000	93575	58.5	86.5	100000	93741	57.8
1	25.0	91125	89781	63.1	32.2	91355	89621	62.2
2	11.6	88847	88332	63.7	27.2	88417	87215	63.3
3	9.0	87817	87421	63.5	17.4	86012	85263	64.0
4	5.2	87025	86800	63.0	9.3	84514	84123	64.2
5	14.4	86575	429998	62.4	11.9	83731	416365	63.8
10	4.0	85329	425853	58.2	7.6	82738	412240	59.5
15	4.8	84985	423978	53.5	8.2	82109	409001	54.9
20	8.7	84574	421177	48.7	11.4	81439	405048	50.4
25	12.1	83840	416869	44.1	13.8	80508	399975	45.9
30	12.1	82829	411826	39.6	11.0	79396	394969	41.5
35	17.6	81824	405784	35.1	21.9	78524	388637	37.0
40	16.5	80380	398834	30.7	11.4	76801	381987	32.7
45	38.2	79052	388271	26.1	26.8	75927	374933	28.1
50	72.8	76037	367262	22.1	55.1	73895	360006	23.8
55	114.1	70499	333579	18.6	59.3	69823	339485	20.0
60	140.8	62457	291487	15.6	118.8	65685	310057	16.1
65	223.0	53663	239516	12.8	162.9	57884	267019	12.9
70	274.3	41695	180636	10.7	294.1	48455	207424	9.9
75	363.4	30258	123945	8.7	355.8	34203	140809	8.0
80	502.3	19263	71304	7.3	564.2	22034	77390	6.0
85+	1000.0	9587	69241	7.2	1000.0	9602	54074	5.6

Table 3.8: Abridged Life Tables by Area, 1986

Age (years)	MCH-FP area				Comparison area			
	$1000\ {}_nq_x$	l_x	L_x	e^0	1000_nq_x	l_x	L_x	e^0
0	81.8	100000	94077	59.9	92.7	100000	93287	56.6
1	25.7	91820	90428	64.2	31.1	90728	89066	61.4
2	11.6	89461	88941	64.9	25.8	87911	86778	62.4
3	11.0	88420	87934	64.7	14.8	85644	85011	63.0
4	4.9	87448	87235	64.4	9.2	84378	83989	62.9
5	9.5	87022	433198	63.7	16.8	83600	414760	62.5
10	3.6	86193	430246	59.3	8.1	82197	409460	58.5
15	6.0	85881	428216	54.5	7.0	81535	406363	54.0
20	8.5	85365	425162	49.8	11.9	80965	402600	49.4
25	13.9	84644	420502	45.2	11.9	80000	397808	44.9
30	9.7	83467	415476	40.8	13.6	79050	392761	40.4
35	18.1	82661	409842	36.2	21.9	77972	385910	35.9
40	15.6	81161	402880	31.8	11.3	76263	379329	31.7
45	28.9	79893	394129	27.2	35.6	75402	370792	27.0
50	63.2	77587	376513	23.0	64.9	72719	352600	22.9
55	91.6	72684	347828	19.3	83.8	68000	326674	19.3
60	134.0	66027	309239	16.0	126.8	62301	292883	15.8
65	195.0	57179	259226	13.1	195.5	54404	246577	12.8
70	263.8	46028	200653	10.6	305.6	43767	186046	10.2
75	325.2	33884	142275	8.5	396.7	30394	121725	8.6
80	505.1	22865	84443	6.4	558.7	18337	64721	7.6
85+	1000.0	11315	62059	5.5	1000.0	8092	75315	9.3

Table 3.9: Abridged Life Tables for MCH-FP Area by Sex, 1986

Age (years)	Males				Females			
	$1000\ {}_nq_x$	l_x	L_x	e^0	$1000\ {}_nq_x$	l_x	L_x	e^0
0	82.2	100000	94049	59.7	81.4	100000	94107	60.2
1	20.0	91780	90700	64.0	31.3	91860	90162	64.5
2	9.4	89949	89528	64.3	14.0	88982	88361	65.6
3	6.7	89107	88808	63.9	15.8	87739	87046	65.5
4	4.4	88509	88316	63.3	5.4	86352	86119	65.6
5	11.1	88122	438348	62.6	7.7	85887	427900	64.9
10	3.1	87141	435089	58.3	4.2	85221	425279	60.4
15	4.3	86873	433512	53.5	7.8	84862	422792	55.6
20	2.1	86502	432089	48.7	14.0	84204	418292	51.1
25	18.3	86319	427939	43.8	9.4	83023	413318	46.7
30	9.7	84736	421786	39.6	9.6	82244	409399	42.2
35	18.4	83914	416004	34.9	17.9	81454	403901	37.5
40	20.8	82370	407879	30.5	11.7	79995	397814	33.2
45	38.5	80652	396055	26.1	20.1	79058	391626	28.5
50	71.5	77544	374788	22.1	54.4	77472	377566	24.1
55	103.8	72001	342452	18.5	78.0	73260	352953	20.3
60	151.2	64524	299496	15.4	113.8	67546	319654	16.8
65	217.2	54766	245252	12.7	168.5	59862	275315	13.6
70	287.1	42873	184319	10.4	235.2	49774	220625	10.8
75	344.5	30565	126758	8.6	299.9	38067	162379	8.4
80	471.6	20034	75973	6.8	549.5	26650	94830	5.8
85+	1000.0	10586	60872	5.8	1000.0	12007	60959	5.1

Table 3.10: Abridged Life Tables for Comparison Area by Sex, 1986

Age (years)	Males				Females			
	$1000\ {}_nq_x$	l_x	L_x	e^0	$1000\ {}_nq_x$	l_x	L_x	e^0
0	94.6	100000	93149	57.5	90.8	100000	93425	55.6
1	29.3	90537	88974	62.5	32.9	90919	89155	60.1
2	13.5	87888	87295	63.4	39.7	87930	86182	61.2
3	11.1	86701	86219	63.3	18.9	84435	83636	62.7
4	5.9	85736	85483	63.0	12.8	82837	82305	62.9
5	17.6	85230	422692	62.3	15.9	81774	405870	62.7
10	5.1	83733	417687	58.4	11.4	80475	400253	58.6
15	5.5	83309	415496	53.7	8.6	79556	396200	54.3
20	15.5	82854	411305	49.0	8.5	78871	392813	49.7
25	5.5	81570	406817	44.7	18.5	78202	387662	45.1
30	14.8	81122	402840	39.9	12.5	76752	381551	40.9
35	16.8	79922	396501	35.5	26.2	75794	374372	36.4
40	11.7	78576	390767	31.1	11.0	73806	367154	32.3
45	37.7	77660	381505	26.4	33.7	72993	359273	27.7
50	74.3	74729	360691	22.3	55.8	70536	343520	23.5
55	125.4	69180	325453	18.9	39.4	66598	326907	19.8
60	129.2	60508	284090	16.2	124.0	63974	301173	15.5
65	229.0	52689	234368	13.2	157.4	56041	259271	12.3
70	258.8	40621	177610	11.4	352.8	47219	194779	9.1
75	383.6	30109	121676	9.5	413.1	30561	120994	7.7
80	540.4	18560	66563	8.8	581.4	17935	62018	6.3
85+	1000.0	8530	97489	11.4	1000.0	7507	51301	6.8

Table 3.11: Deaths by Age and Month of Death, 1986

Month	All age	Age at death			
		Under 1 month	1-11 months	1-4 years	5 years and over
January	204	31	19	36	118
February	157	24	25	25	83
March	173	20	26	34	93
April	198	20	28	41	109
May	166	23	30	40	73
June	159	10	33	36	80
July	128	12	22	22	72
August	162	32	14	29	87
September	161	30	18	37	76
October	209	62	17	37	93
November	189	39	15	24	111
December	240	48	24	35	133
Total	2146	351	271	396	1128

Table 3.12: Male Deaths by Cause and Age, 1986

Cause	All ages	Age at death (years)																		
		Under 1 yr.	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+
All causes	1090	317	152	42	10	11	16	18	12	13	12	27	55	65	69	75	68	55	46	27
Measles	17	3	12	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tetanus	101	93	4	3	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
Drowning	33	1	22	8	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0
Murder	9	1	0	0	0	0	2	0	2	1	0	1	1	0	1	0	0	0	0	0
Suicide	4	0	0	0	0	1	1	1	0	0	0	0	1	0	0	0	0	0	0	0
Diarrhoea acute	49	20	10	2	3	1	1	0	0	1	1	0	4	0	1	2	1	1	1	0
Diarr. chronic*	26	4	9	1	0	0	0	0	0	0	0	1	1	1	1	0	1	2	5	0
Dysentery acute	48	10	17	5	0	0	0	0	1	3	0	0	2	1	1	3	2	2	0	1
Dys. chronic*	105	9	20	4	1	0	2	1	1	0	0	4	6	9	8	11	12	7	6	4
Childbirth	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Jaundice	22	0	1	1	2	1	3	3	0	0	0	1	0	5	3	1	1	0	0	0
Other	163	65	12	4	1	3	5	4	1	3	1	2	6	7	11	12	9	9	7	1
G.I. tract	47	2	0	0	0	0	0	2	1	0	3	6	6	11	6	3	3	1	2	1
Respiratory	188	71	20	4	0	1	0	1	4	1	2	3	10	13	19	12	10	10	3	4
Heart disease	20	0	0	0	0	0	0	1	0	1	0	1	3	2	4	4	1	2	1	0
Liver disease	7	0	2	0	0	0	0	1	0	0	0	1	1	1	0	0	1	0	0	0
Venereal disease	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Skin disease	10	4	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	4	0
E.N.T. disease	20	6	6	0	0	0	0	1	0	0	0	0	1	0	1	3	0	2	0	0
Cholera (proven)	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Oedema (dropsy)	31	1	5	1	0	0	0	0	1	1	1	2	2	4	2	3	4	0	2	2
Rheumatism	28	0	0	1	0	0	0	0	1	0	0	1	1	1	2	4	9	4	2	2
Accident	17	2	2	2	1	2	0	1	0	0	0	0	2	1	1	2	0	0	1	0
Old age	41	0	1	0	0	0	0	0	0	0	0	0	0	1	2	8	8	7	7	7
Fever(all forms)	84	24	9	4	1	1	1	1	0	2	3	1	6	2	3	4	5	8	5	4
Diabetes	3	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1	0	0	0	0
Cancer	15	0	0	0	1	0	0	1	0	0	0	3	1	4	2	2	0	0	0	1
Unknown	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

*Prolonged or recurrent illness during last two/three months. (See Zimicki, S. et al., Cause of Death Reporting in Matlab, ICDDR,B Scientific Report No. 63, 1985.)

Table 3.13: Female Deaths by Cause and Age, 1986

Cause	All ages	Age at death (years)																		
		Under 1 yr.	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+
All causes	1056	305	244	31	17	18	23	20	11	19	11	21	41	31	51	47	65	42	40	19
Measles	31	8	22	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tetanus	88	77	4	3	0	1	0	1	1	1	0	0	0	0	0	0	0	0	0	0
Drowning	34	3	26	3	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0
Murder	3	0	0	1	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0
Suicide	9	0	0	0	0	6	2	1	0	0	0	0	0	0	0	0	0	0	0	0
Diarrhoea acute*	71	21	15	4	3	1	2	1	0	1	0	0	1	3	4	1	3	4	5	2
Diarr. chronic*	45	12	20	0	0	0	0	0	0	0	0	1	1	0	1	1	4	2	2	1
Dysentery acute*	45	6	22	1	0	0	2	1	0	1	0	0	0	1	1	2	5	1	1	1
Dys. chronic*	132	6	71	3	1	1	0	0	1	0	0	3	3	2	6	7	14	7	4	3
Childbirth	8	0	0	0	0	1	1	3	2	1	0	0	0	0	0	0	0	0	0	0
Jaundice	23	2	3	1	3	2	2	0	1	2	0	0	2	1	1	1	1	1	0	0
Other	165	67	20	5	4	4	5	8	1	4	6	0	8	3	7	6	10	3	1	3
G.I. tract	26	0	1	1	0	0	0	1	0	1	1	2	6	2	2	2	4	1	1	1
Respiratory	147	68	19	2	0	0	1	2	0	3	2	7	8	6	11	4	5	3	5	1
Heart disease	7	0	1	0	1	0	0	0	0	0	1	0	1	0	1	1	0	1	0	0
Liver disease	4	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	1	0	1	0
Venereal disease	2	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0
Skin disease	11	5	1	0	1	0	0	0	1	0	0	1	1	0	0	0	0	1	0	0
E.N.T. disease	9	2	1	0	1	0	1	0	0	0	0	0	0	0	2	2	0	0	0	0
Cholera (proven)	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
Oedema (dropsy)	50	1	7	2	0	1	1	1	1	1	0	5	1	4	5	6	2	5	5	2
Rheumatism	15	0	0	0	0	0	0	0	0	0	0	0	1	1	3	2	3	2	3	0
Accident	6	1	0	0	0	0	1	0	0	1	0	0	0	0	1	0	1	0	1	0
Old age	36	0	1	0	0	0	0	0	0	0	0	0	0	1	1	8	6	8	8	3
Fever(all forms)	70	20	10	3	3	0	2	0	1	2	1	2	5	3	4	3	4	3	2	2
Diabetes	3	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	1	0
Cancer	7	0	0	1	0	1	1	1	0	1	0	0	0	1	0	0	1	0	0	0
Unknown	8	6	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0

*Prolonged or recurrent illness during last two/three months. (See Zimicki, S. et al., Cause of Death Reporting in Matlab, ICDDR,B Scientific Report No. 63, 1985.)

Table 3.14: Male Deaths by Cause, Age, and Area, 1986

Causes	All ages		Under 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
All cause	515	575	139	178	56	96	20	32	41	41	112	104	127	117	20	7
Measles	2	15	1	2	0	12	1	1	0	0	0	0	0	0	0	0
Tetanus	30	71	27	66	1	3	2	1	0	0	0	1	0	0	0	0
Drowning	17	16	1	0	11	11	5	3	0	1	0	1	0	0	0	0
Murder	4	5	1	0	0	0	0	0	2	3	1	2	0	0	0	0
Suicide	4	0	0	0	0	0	0	0	3	0	1	0	0	0	0	0
Diarrhoea acute	17	32	6	14	2	8	2	3	2	2	2	3	3	2	0	0
Diarr. chronic*	13	13	2	2	4	5	0	1	0	0	3	1	4	4	0	0
Dysentery acute	21	27	5	5	8	9	1	4	2	2	2	2	2	5	1	0
Dys. chronic*	43	62	7	2	6	14	3	2	0	4	12	15	13	23	2	2
Child birth	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Jaundice	11	11	0	0	0	1	2	1	3	4	5	4	1	1	0	0
Other	87	76	35	30	6	6	2	3	7	10	15	11	21	16	1	0
G.I. tract	27	20	0	2	0	0	0	0	4	2	17	12	5	4	1	0
Respiratory	105	83	40	31	8	12	1	3	6	3	25	20	21	14	4	0
Heart disease	11	9	0	0	0	0	0	0	2	0	5	5	4	4	0	0
Liver disease	4	3	0	0	2	0	0	0	1	0	1	2	0	1	0	0
Venereal disease	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Skin disease	7	3	2	2	0	0	0	0	0	0	1	0	4	1	0	0
E.N.T. disease	12	8	3	3	2	4	0	0	1	0	2	0	4	1	0	0
Cholera (proven)	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
Oedema (dropsy)	17	14	1	0	1	4	0	1	3	0	6	4	4	5	2	0
Rheumatism	17	11	0	0	0	0	0	1	1	0	3	2	12	7	1	1
Accident	5	12	0	2	0	2	1	2	1	2	1	3	2	1	0	0
Old age	25	16	0	0	1	0	0	0	0	0	2	1	18	12	4	3
Fever (all forms)	25	59	7	17	4	5	0	5	1	7	3	9	7	15	3	1
Diabetes	2	1	0	0	0	0	0	0	0	1	1	0	1	0	0	0
Cancer	7	8	0	0	0	0	0	1	1	0	4	6	1	1	1	0
Unknown	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0

Prolonged or recurrent illness during last two/three months. (See Zimicki, S. et al., Cause of Death Reporting in Matlab, ICDDR,B Scientific Report No. 63, 1985.)

M = MCH-FP area

C = Comparison area

Table 3.15: Female Deaths by Cause, Age, and Area, 1986

Causes	All ages		Under 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
All cause	464	592	133	172	90	154	15	33	50	52	74	70	89	105	13	6
Measles	3	28	3	5	0	22	0	1	0	0	0	0	0	0	0	0
Tetanus	24	64	22	55	1	3	1	2	0	4	0	0	0	0	0	0
Drowning	13	21	1	2	10	16	1	2	1	1	0	0	0	0	0	0
Murder	2	1	0	0	0	0	1	0	1	1	0	0	0	0	0	0
Suicide	4	5	0	0	0	0	0	0	4	5	0	0	0	0	0	0
Diarrhoea acute*	35	36	7	14	7	8	2	5	4	1	4	4	9	4	2	0
Diarr. chronic*	22	23	8	4	7	13	0	0	0	0	1	2	5	4	1	0
Dysentery acute*	15	30	4	2	7	15	0	1	2	2	0	2	2	7	0	1
Dys. chronic*	46	86	1	5	30	41	3	1	1	1	4	10	4	28	3	0
Childbirth	2	6	0	0	0	0	0	0	2	6	0	0	0	0	0	0
Jaundice	8	15	2	0	2	1	1	3	1	6	2	2	0	3	0	0
Other	85	80	35	32	9	11	3	6	19	9	6	12	12	8	1	2
G.I. tract	19	7	0	0	1	0	1	0	1	2	8	4	7	1	1	0
Respiratory	68	79	32	36	7	12	0	2	4	4	15	17	9	8	1	0
Heart disease	3	4	0	0	0	1	1	0	0	1	1	1	1	1	0	0
Liver disease	2	2	0	0	0	0	0	0	0	0	1	1	1	1	0	0
Venereal disease	2	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0
Skin disease	6	5	1	4	1	0	0	1	1	0	2	0	1	0	0	0
E.N.T. disease	5	4	2	0	0	1	0	1	1	0	1	1	1	1	0	0
Cholera (proven)	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
Oedema (dropsy)	24	26	1	0	2	5	0	2	4	1	11	4	5	13	1	1
Rheumatism	4	11	0	0	0	0	0	0	0	0	2	3	2	8	0	0
Accident	3	3	0	1	0	0	0	0	2	0	0	1	1	1	0	0
Old age	26	10	0	0	1	0	0	0	0	0	2	0	20	10	3	0
Fever (all forms)	31	39	9	11	5	5	0	6	2	4	9	5	6	6	0	2
Diabetes	3	0	0	0	0	0	0	0	0	0	1	0	2	0	0	0
Cancer	1	6	0	0	0	0	1	0	0	4	0	1	0	1	0	0
Unknown	7	1	5	1	0	0	0	0	0	0	1	0	1	0	0	0

*Prolonged or recurrent illness during last two/three months. (See Zimicki, S. et al., Cause of Death Reporting in Matlab, ICDDR,B Scientific Report No. 63, 1985.)

M = MCH-FP area

C = Comparison area

CHAPTER 4

FERTILITY

There were 7,904 reported pregnancies in 1986 in the Matlab DSS area, of which 7,042 resulted in live births and 862 resulted in miscarriages or stillbirths, yielding a ratio of 121 foetal losses per 1,000 live births (Table 4.1).Stillbirths are defined as foetal losses of seven months gestation or more;if the gestation period is less than seven months, the loss is designated as a miscarriage, either induced or spontaneous. The number of pregnancies in 1986 was less than the number reported for 1985 by 279 and more than the year 1984 by 512. The reported number of foetal losses in 1986, however, was 51 less than 1984 and 4 more than 1985.

Seasonality of births, shown in Table 4.2 and Figure 4.1, had the same pattern in 1986 as in previous years, with a larger number of births in October, November, and December. Table 4.3 presents the 1986 age-specific fertility rates. Fertility reached its peak at ages 20-24. The general fertility rate was 154 per thousand women aged 15-49. All fertility rates were lower in 1986 than in 1985 in both areas. These fertility indices were significantly lower in the MCH-FP area than in the Comparison area (Table 4.4).

Table 4.1: Number and Rates of Pregnancy Outcomes by Type and Area, 1986

Type of pregnancy outcome	Both areas		MCH-FP area		Comparison area	
	No.	Rate	No.	Rate	No.	Rate
Total pregnancies*	7904	171.3	3680	152.5	4224	192.0
Live birth preg.**	7042	890.9	3294	895.1	3748	887.3
Fetal wastage preg.**	862	109.1	386	104.9	476	112.7
Early (miscarriages)	593	75.0	263	71.5	330	78.1
Late (still-births)	269	34.0	123	33.4	146	34.6
Multiple birth pregnancies	71		41		30	
Live birth pregnancies	65		38		27	
Three live births	1		0		1	
Two live births	56		31		25	
One live birth	8		7		1	
Still-birth pregnancies	0		0		0	
Miscarriage twin preg.	6		3		3	

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

Table 4.2: Pregnancy Outcomes by Month, 1986

Month	Pregnancy outcome					No. of live born children			
		Miscarriage		Still-birth	Live birth*	Both sexes	Males	Females	M/F Ratio
	All	Induced	Spon.						
All months	7904	160	433	269	7042	7100	3572	3528	1.01
January	669	12	28	27	602	606	329	277	1.19
February	523	9	27	17	470	475	246	229	1.07
March	637	10	34	23	570	575	282	293	0.96
April	509	12	40	22	435	437	221	216	1.02
May	634	15	54	15	550	556	281	275	1.02
June	476	12	47	14	403	406	214	192	1.11
July	484	12	49	16	407	412	221	191	1.16
August	556	21	33	22	480	483	234	249	0.94
September	650	15	33	18	584	592	288	304	0.95
October	970	17	35	36	882	893	429	464	0.92
November	941	13	26	30	872	877	431	446	0.97
December	855	12	27	29	787	788	396	392	1.01

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

Figure 4.1: Number of Births and Deaths by Month, 1986

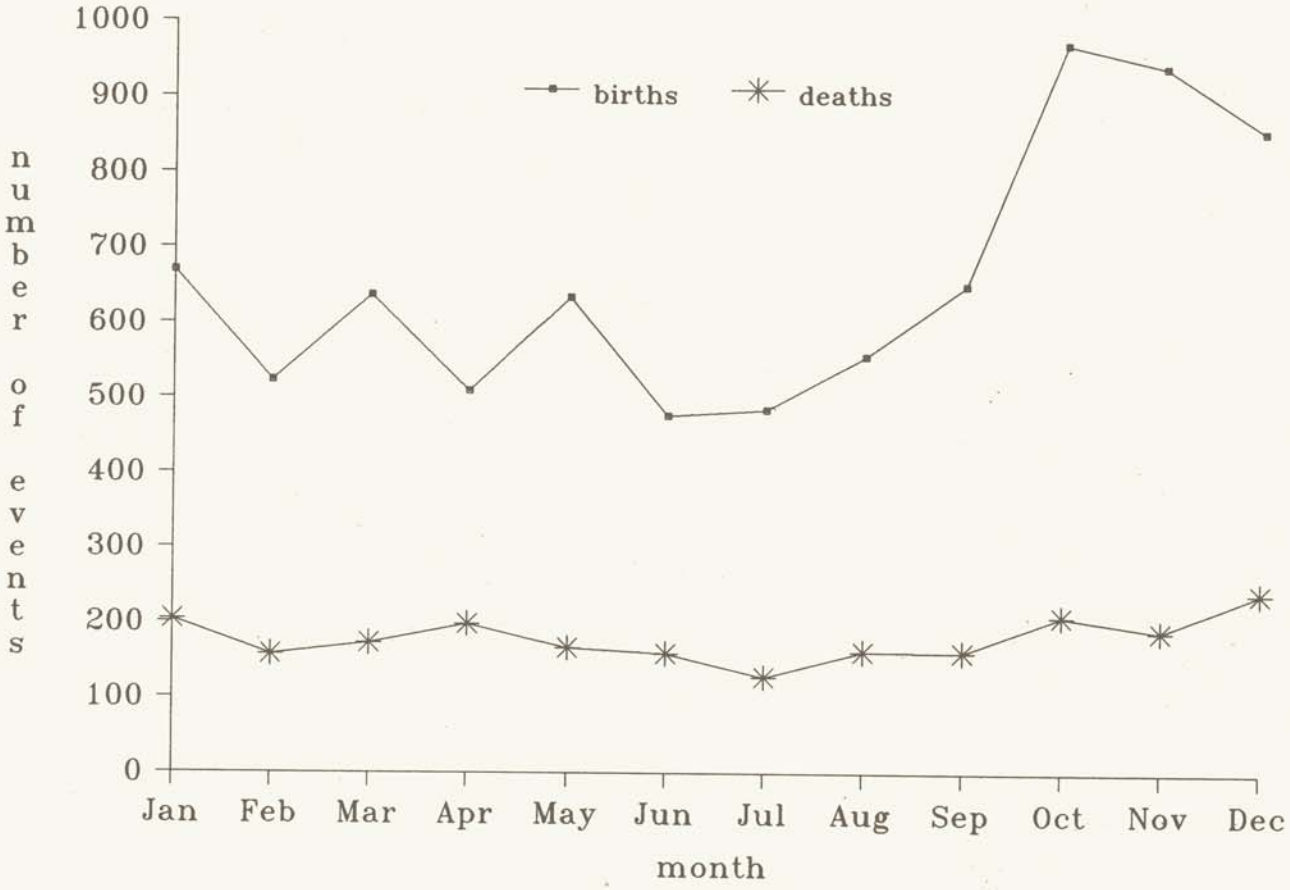


Table 4.3: Age-specific Fertility Rates and Indices, 1986

Age (years)	Number of live births	Number of women	ASFR (per 1000)
All ages	7100	46139	153.9
15-19*	1033	10989	94.0
20-24	2522	10008	252.0
25-29	1732	7194	240.8
30-34	946	4981	189.9
35-39	616	4285	143.8
40-44	217	4806	45.2
45-49**	34	3876	8.8

Total Fertility Rate(TFR)	= 4872
General Fertility Rate (GFR)	= 154
Gross Reproduction Rate (GRR)	= 2421
Net Reproduction Rate (NRR)	= 1929

*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, 1986

Age (years)	MCH-FP area		Comparison area	
	# of live births	ASFR (per 1000)	# of live births	ASFR (per 1000)
All ages	3325	137.7	3775	171.6
15-19*	510	88.2	523	100.4
20-24	1211	228.0	1311	279.2
25-29	803	216.0	929	267.2
30-34	423	163.2	523	218.9
35-39	273	123.3	343	165.6
40-44	86	33.8	131	58.0
45-49**	19	9.6	15	7.9
TFR =	4311		TFR =	5486
GFR =	138		GFR =	172
GRR =	2118		GRR =	2752
NRR =	1746		NRR =	2182

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

Table 4.5: Age-specific Fertility Rates and Indices for MCH-FP Area by Block, 1986

Age (years)	Block A		Block B	
	# of live births	ASFR (per 1000)	# of live births	ASFR (per 1000)
All ages	872	135.7	911	147.6
15-19*	131	84.1	129	89.3
20-24	340	228.3	291	211.3
25-29	196	201.2	221	240.5
30-34	104	154.5	133	193.0
35-39	68	112.6	102	177.7
40-44	26	38.1	29	45.0
45-49**	7	15.7	6	11.5
TFR	= 4173		TFR	= 4842
GFR	= 136		GFR	= 148
GRR	= 2034		GRR	= 2381

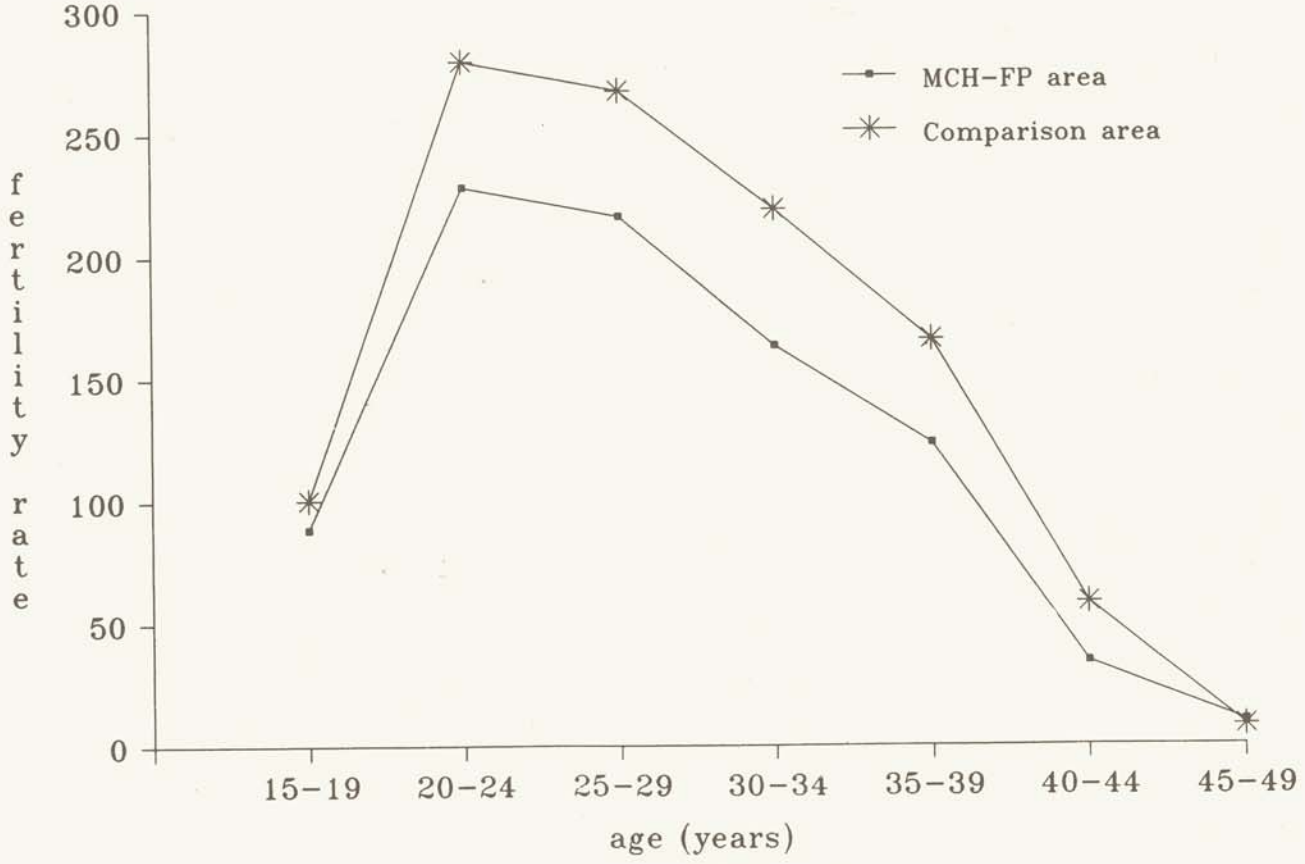
*Births to mothers under age 15 were included in this group.
**Births to mothers age 50 and above were included in this group.

Table 4.5 (cont.): Age-specific Fertility Rates and Indices for MCH-FP Area by Block, 1986

Age (years)	Block C		Block D	
	# of live births	ASFR (per 1000)	# of live births	ASFR (per 1000)
All ages	880	138.8	662	127.3
15-19*	145	93.8	105	85.2
20-24	337	250.6	243	220.7
25-29	221	221.0	165	200.2
30-34	107	155.7	79	145.5
35-39	48	84.1	55	118.3
40-44	18	26.8	13	23.6
45-49**	4	7.7	2	4.1
TFR =	4198		TFR =	3988
GFR =	139		GFR =	127
GRR =	2061		GRR =	1982

*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, 1986



CHAPTER 5

MARRIAGE AND DIVORCE

In 1986, 3,190 marriages were registered, in which 2,516 men and 2,738 women were married for the first time (Tables 5.1 and 5.2). Of all the registered first marriages, 27 percent of the men were married at the age of 20-24 years and 48 percent of the women were married at the age of 15-19 years. The median age at first marriage for men was 24 years and for women was 18.4 years. Median age at first marriage for men were lower than 1985 but for women it remained same.

The distribution of marriages and divorces by month (Table 5.6 and Figure 5.1) shows a seasonal variation which was more marked than that of previous years, with troughs in April-May and November. The number of marriages ranged from 115 in November to 393 in March, and the number of divorces ranged from 21 in May to 70 in January.

In 1986 data collection forms were revised and the date of birth of marriage partners was no longer asked. If a DSS resident married a person from outside of the DSS area and moved out of the area the date of birth, and age, of the non-DSS spouse is not known. This accounts for the large number of unknown ages for marriage partners, especially men.

Table 5.1: Groom's Age at Marriage by Previous Marital Status, 1986

Age (years)	All grooms		Previous marital status							
			Single		Married		Widowed		Divorced	
	No.	Percent	No.	Percent	No.	Percent	No.	Percent	No.	Percent
All ages	3190	100.0	2516	100.1	168	100.0	125	100.0	381	100.0
10-14	2	0.1	2	0.1	0	0.0	0	0.0	0	0.0
15-19	158	5.0	149	5.9	3	1.8	2	1.6	4	1.0
20-24	763	23.9	667	26.5	15	8.9	8	6.4	73	19.2
25-29	562	17.6	449	17.9	25	14.9	11	8.8	77	20.2
30-34	153	4.8	75	3.0	25	14.9	9	7.2	44	11.5
35-39	32	1.0	9	0.4	9	5.4	4	3.2	10	2.6
40-44	29	0.9	0	0.0	12	7.1	9	7.2	8	2.1
45-49	15	0.5	2	0.1	4	2.4	6	4.8	3	0.8
50-54	13	0.4	0	0.0	4	2.4	8	6.4	1	0.3
55-59	6	0.2	0	0.0	1	0.6	4	3.2	1	0.3
60-64	5	0.2	0	0.0	4	2.4	0	0.0	1	0.3
65+	4	0.1	1	0.0	0	0.0	3	2.4	0	0.0
Unknown	1448	45.4	1162	46.2	66	39.3	61	48.8	159	41.7
Median age*	24.6		24.0		31.2		36.9		26.9	
Mean age*	25.9		24.3		33.6		39.2		28.3	
Standard dev.*	6.5		3.9		9.9		13.2		6.5	

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

Table 5.2: Bride's Age at Marriage by Previous Marital Status, 1986

Age (years)	All brides		Previous marital status					
			Single		Widowed		Divorced	
	No.	Percent	No.	Percent	No.	Percent	No.	Percent
All ages	3190	100.0	2738	100.0	28	100.0	424	100.0
10-14	121	3.8	121	4.4	0	0.0	0	0.0
15-19	1403	44.0	1304	47.6	2	2	97	22.9
20-24	653	20.5	500	18.3	4	3	149	35.1
25-29	110	3.4	37	1.4	7	6	66	15.6
30-34	22	0.7	2	0.1	5	4	15	3.5
35-39	47	1.5	36	1.3	2	2	9	2.1
40-44	1	0.0	0	0.0	1	1	0	0.0
45-49	1	0.0	0	0.0	1	1	0	0.0
50+	2	0.1	2	0.1	0	0	0	0.0
Unknown	830	26.0	736	26.9	6	5	88	20.8
Median age*	18.8		18.4		28.1		21.9	
Mean age*	19.6		19.0		29.4		22.9	
Standard dev.*	4.4		3.9		7.2		4.3	

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

Table 5.3: Marriage Rates by Age and Sex, 1986

Age (years)	Males		Females	
	Number	Rate*	Number	Rate*
10-14	2	0.2	121	10.9
15-19	158	13.9	1403	127.7
20-24	763	83.0	653	65.2
25-29	562	75.7	110	15.3
30-24	153	31.1	22	4.4
35-39	32	8.8	47	11.0
40-44	29	8.0	1	0.2
45-49	15	4.3	1	0.1**
50-54	13	3.6	2	-
55-59	6	2.2	0	-
60-64	5	2.2	0	-
65+	4	1.1	0	-
Unknown	1448	-	830	-

*Rates per 1000 population irrespective of previous marital status.

**Women age 45 and above were included in this group.

Table 5.4: Number of Marriages by Groom's and Bride's Age at Marriage, 1986

Groom's age (years)	All	Bride's age (years)									
		<15	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50+	Unk
All ages	3190	121	1403	653	110	22	47	1	1	2	830
Under 15	2	0	0	0	0	0	0	0	0	0	2
15-19	158	10	37	21	0	0	2	0	0	0	88
20-24	763	22	260	103	6	0	23	0	0	1	348
25-29	562	14	189	78	5	2	7	0	0	0	267
30-34	153	2	38	24	8	1	5	0	0	0	75
35-39	32	1	4	5	2	0	0	0	0	0	20
40-44	29	1	7	4	4	1	0	0	0	0	12
45-49	15	0	1	4	2	1	1	0	0	0	6
50-54	13	0	0	3	5	2	2	0	0	0	1
55-59	6	0	0	1	0	2	1	0	0	0	2
60-64	5	0	1	0	0	2	0	0	0	0	2
65+	4	0	0	0	0	1	0	0	0	0	3
Unknown	1448	71	866	410	78	10	6	1	1	1	4

Table 5.5: Number of Divorces by Partners' Age at Divorce, 1986

Male's age (years)	All	Female's age (years)								
		<15	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50+
All ages	472	2	185	171	43	12	11	1	2	45
Under 15	0	0	0	0	0	0	0	0	0	
15-19	9	0	6	0	0	0	0	0	0	3
20-24	83	0	38	24	2	0	1	0	0	18
25-29	105	1	41	34	10	0	5	0	0	14
30-34	26	1	6	13	2	1	0	0	0	3
35-39	9	0	1	2	2	3	0	0	0	1
40-44	12	0	2	3	3	1	1	0	0	2
45-49	8	0	1	1	1	0	2	0	0	3
50-54	3	0	0	0	1	1	1	0	0	0
55-59	4	0	0	0	1	1	0	1	0	1
60-64	3	0	0	1	1	1	0	0	0	0
65+	2	0	0	0	0	0	0	0	2	0
Unknown	208	0	90	93	20	4	1	0	0	0

Table 5.6: Marriages and Divorces by Month, 1986

Month	Marriage		Divorce	
	Number	Percent	Number	Percent
January	367	11.5	70	14.8
February	324	10.2	37	7.8
March	393	12.3	52	11.0
April	175	5.5	37	7.8
May	191	6.0	21	4.4
June	312	9.8	40	8.5
July	284	8.9	41	8.7
August	314	9.8	39	8.3
September	213	6.7	32	6.8
October	237	7.4	37	7.8
November	115	3.6	23	4.9
December	265	8.3	43	9.1
All months	3190	100.0	472	100.0

Figure 5.1: Marriages and Divorces by Month, 1986

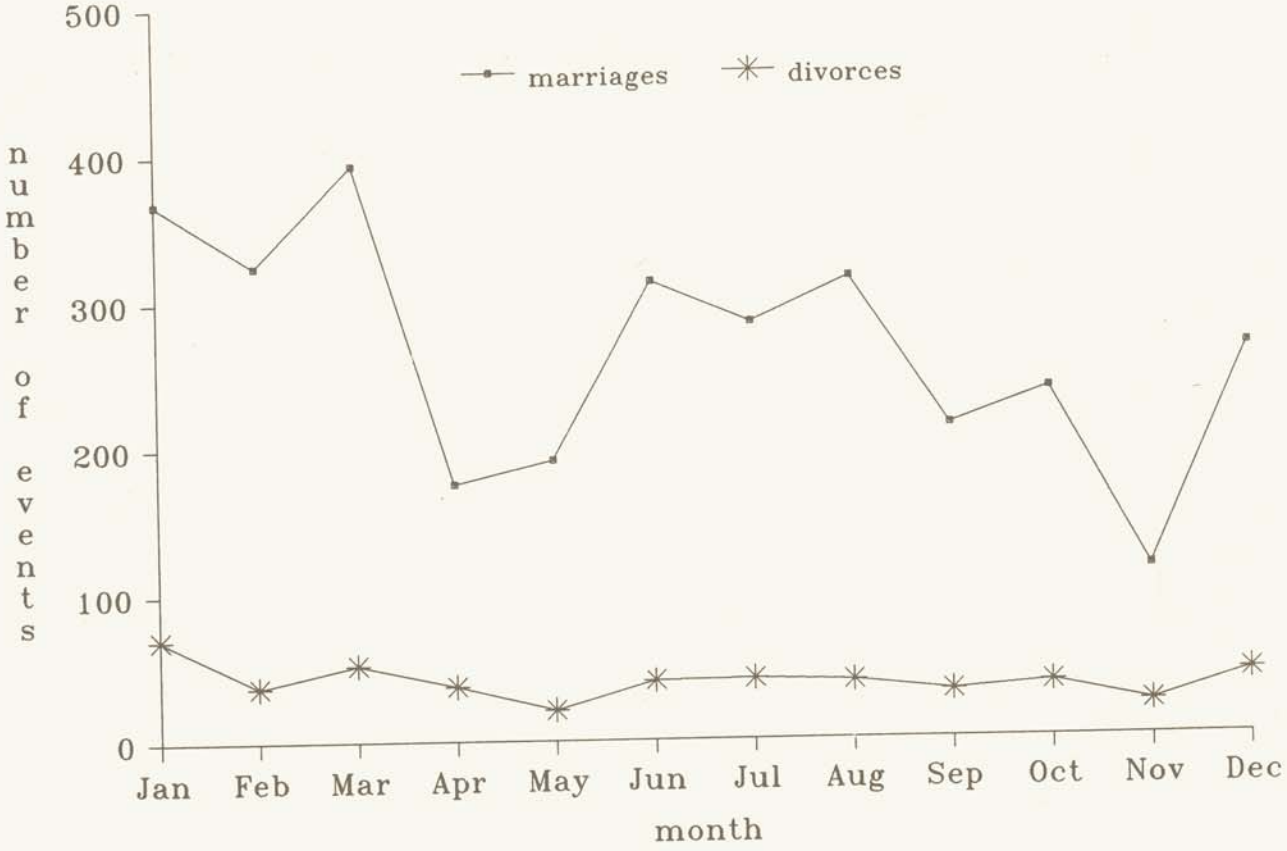


Table 5.7: Number of Divorces by Sex, Age, and Duration of Marriage, 1986

Age at divorce	All durations		Duration of marriage (months)													
			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	472	472	60	60	90	90	122	122	73	73	42	42	23	23	62	62
Under 20	9	187	1	31	2	51	5	64	1	24	0	7	0	5	0	5
20-24	83	170	15	12	22	20	23	37	11	32	6	28	3	14	3	27
25-29	105	43	7	5	22	2	28	9	17	6	5	2	9	3	17	16
30-34	26	12	5	0	5	1	4	0	4	2	2	3	0	0	6	6
35-39	9	11	1	1	0	2	2	1	0	3	3	0	0	0	3	4
40-44	20	1	3	0	3	0	2	0	5	0	1	0	0	0	6	1
50+	10	0	1	0	0	0	0	0	3	0	0	0	0	0	6	0
Unknown	210	48	27	11	36	14	58	11	32	6	25	2	11	1	21	3

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 in-migration, who subsequently moved out of the surveillance (DSS) area permanently. Likewise, an "in-migrant" is an individual not recorded in the census who has permanently moved into the surveillance area. Those who stay in the area continuously for at least 6 months in a year or come home at least once a month to stay overnight are treated as permanent residents.

There were 5,506 in-migrants and 8,099 out-migrants during 1986, yielding a net emigration rate of 13.3 per 1,000 population. The rate of out-migration in 1986 remained almost same as that reported in 1984 and 1985, whereas the rate of in-migration increased substantially. The age-specific in- and out-migration rates are presented in Table 6.4 and Figure 6.1. The highest male in-and out-migration rates of 40.8 and 71.9, were seen in the age groups 25-29 and 20-24 respectively. For females, the highest in- and out-migration rates were 91.9 and 101.8, both in the 15-19 age group.

The distribution of in- and out-migration by month shows a marked seasonal variation (Table 6.9 and Figure 6.2). The number migrating in ranged from 200 in December to 1,078 in January; the number migrating out ranged from 258 in November to 1,350 in January.

While the main cause of migration for adult males and females were economic (for a better living) and due to marriage, as shown in Tables 6.5 through 6.8, and summarized in Table 6.10, dependent migration continued to gain importance in 1986.

Table 6.1: In- and Out-migration by Age and Sex, 1986

Age (years)	In-migration			Out-migration		
	Both sexes	Males	Females	Both sexes	Males	Females
All ages	5506	2272	3234	8099	3900	4199
Under 5	928	451	477	1090	545	545
0	257	110	147	272	133	139
1	183	73	110	237	119	118
2	174	91	83	199	101	98
3	176	103	73	201	110	91
4	138	74	64	181	82	99
5-9	554	277	277	788	409	379
10-14	402	206	196	745	415	330
15-19	1213	203	1010	1722	603	1119
20-24	842	205	637	1535	661	874
25-29	575	303	272	865	478	387
30-34	300	192	108	379	227	152
35-39	192	138	54	231	154	77
40-44	137	91	46	210	125	85
45-49	100	63	37	131	79	52
50-54	73	42	31	114	67	47
55-59	67	41	26	78	41	37
60-64	38	26	12	78	32	46
65+	85	34	51	133	64	69

Table 6.2: In-migration by Age, Sex, and Area, 1986

Age (years)	MCH-FP area			Comparison area		
	Both sexes	Males	Females	Both sexes	Males	Females
All ages	2609	1044	1565	2897	1228	1669
Under 5	442	206	236	486	245	241
0	138	60	78	119	50	69
1	89	36	53	94	37	57
2	85	42	43	89	49	40
3	76	47	29	100	56	44
4	54	21	33	84	53	31
5-9	238	120	118	316	157	159
10-14	164	92	72	238	114	124
15-19	603	83	520	610	120	490
20-24	433	97	336	409	108	301
25-29	291	150	141	284	153	131
30-34	149	95	54	151	97	54
35-39	91	72	19	101	66	35
40-44	67	48	19	70	43	27
45-49	46	30	16	54	33	21
50-54	23	19	4	50	23	27
55-59	22	16	6	45	25	20
60-64	12	8	4	26	18	8
65+	28	8	20	57	26	31

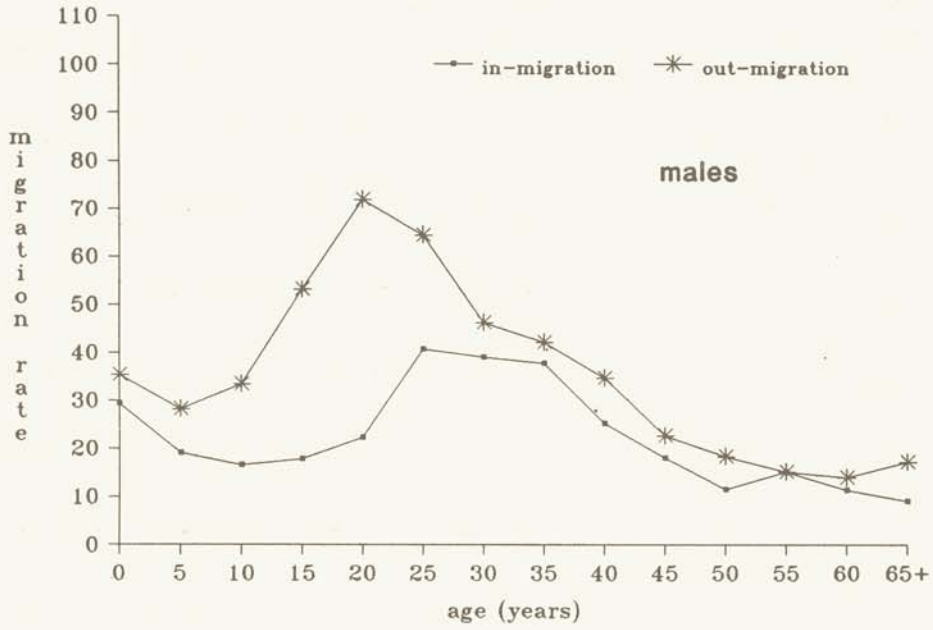
Table 6.3: Out-migration by Age, Sex, and Area 1986

Age (years)	MCH-FP area			Comparison area		
	Both sexes	Males	Females	Both sexes	Males	Females
All ages	3606	1758	1848	4493	2142	2351
Under 5	439	216	223	651	329	322
0	118	56	62	154	77	77
1	88	49	39	149	70	79
2	89	43	46	110	58	52
3	80	46	34	121	64	57
4	64	22	42	117	60	57
5-9	302	153	149	486	256	230
10-14	309	179	130	436	236	200
15-19	830	293	537	892	310	582
20-24	788	348	440	747	313	434
25-29	424	250	174	441	228	213
30-34	169	112	57	210	115	95
35-39	95	63	32	136	91	45
40-44	65	40	25	145	85	60
45-49	46	31	15	85	48	37
50-54	37	22	15	77	45	32
55-59	24	14	10	54	27	27
60-64	25	15	10	53	17	36
65+	53	22	31	80	42	38

Table 6.4: Age and Sex-specific Migration Rates by Direction, 1986 (per 1000 population)

Age (years)	Both sexes		Males		Females	
	In	Out	In	Out	In	Out
All ages	28.3	41.7	23.1	39.7	33.7	43.7
Under 5	31.1	36.5	29.3	35.4	33.0	37.7
0	37.4	39.6	31.5	38.1	43.6	41.2
1	31.4	40.7	25.0	40.7	37.8	40.6
2	30.2	34.6	30.3	33.7	30.1	35.5
3	30.2	34.5	33.3	35.6	26.7	33.3
4	24.7	32.5	25.6	28.4	23.8	36.8
5-9	20.2	28.7	19.1	28.2	21.3	29.2
10-14	17.1	31.6	16.6	33.5	17.6	29.6
15-19	54.4	77.2	17.9	53.2	91.9	101.8
20-24	43.9	80.0	22.3	71.9	63.6	87.3
25-29	39.3	59.2	40.8	64.4	37.8	53.8
30-34	30.3	38.3	39.1	46.2	21.7	30.5
35-39	24.2	29.1	37.8	42.2	12.6	18.0
40-44	16.3	25.0	25.2	34.7	9.6	17.7
45-49	13.6	17.8	18.1	22.7	9.5	13.4
50-54	10.0	15.7	11.5	18.4	8.6	13.0
55-59	12.8	14.9	15.2	15.2	10.2	14.5
60-64	8.8	18.1	11.4	14.0	5.9	22.7
65+	12.4	19.4	9.1	17.2	16.4	22.1

Figure 6.1: Rate of In- and Out-migration by Sex and Age, 1986



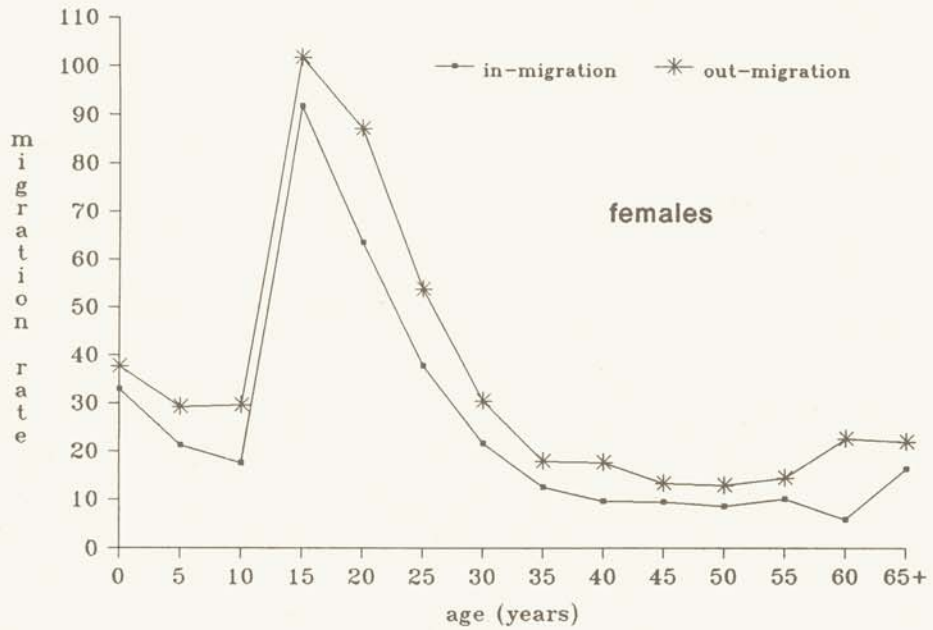


Table 6.5: Male Out-migration by Cause of Movement and Age, 1986

Cause of movement	All ages	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	3900	545	409	415	603	661	478	227	154	125	79	67	41	32	64
1.2. Dependent movement															
- dependent	1106	446	296	180	87	45	23	10	8	6	0	1	0	2	2
- to join spouse	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
- to join parents	42	4	14	13	4	3	4	0	0	0	0	0	0	0	0
- to join relatives	37	2	2	4	4	4	3	4	2	0	0	2	4	1	5
- adoption	7	7	0	0	0	0	0	0	0	0	0	0	0	0	0
2. Independent movement															
2.1. Associated with work and living condition															
- service	1231	1	3	51	268	316	276	115	72	62	30	13	13	4	7
- work	99	0	2	19	26	17	13	9	4	4	2	1	0	2	0
- business	164	0	1	6	36	42	32	19	12	5	3	3	4	0	1
- better living	265	4	2	9	30	44	45	26	17	17	16	21	7	11	16
- for livelihood	187	0	0	15	51	47	30	13	8	6	5	8	0	0	4
- study	230	1	23	56	50	75	23	0	1	1	0	0	0	0	0
2.2. Associated with marriage															
- marriage	4	0	0	0	0	3	0	1	0	0	0	0	0	0	0
- divorce	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
- widowhood	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
- separation	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0
2.3. Return migration															
- after study	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
- after service	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
- after work	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
- return home	18	0	0	2	1	4	3	0	4	1	1	2	0	0	0
- family member	35	0	1	3	3	12	5	1	1	3	1	0	1	1	3
2.4. Others	26	0	0	0	6	9	3	2	3	2	0	0	0	1	0
3. Change in residence	26	0	0	0	0	1	2	1	3	4	1	1	2	4	7
4. For treatment	2	0	0	0	0	0	0	0	0	0	0	1	0	0	1
5. River erosion	416	80	65	57	36	39	16	25	19	13	19	14	10	5	18
6. Family affairs	3	0	0	0	0	0	0	0	0	1	1	0	0	1	0
7. Delivery	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8. Not stated	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0

Table 6.6: Female Out-migration by Cause of Movement and Age, 1986

Cause of movement	All ages	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	4199	545	379	330	1119	874	387	152	77	85	52	47	37	46	69
1.2. Dependent movement															
- dependent	1473	429	271	128	126	191	121	64	26	37	20	14	13	16	17
- to join spouse	292	0	2	0	58	123	72	21	7	6	1	1	1	0	0
- to join parents	88	9	9	7	27	22	2	4	3	3	0	0	1	1	0
- to join relatives	103	1	1	10	18	17	3	2	0	2	7	3	8	10	21
- adoption	21	18	2	1	0	0	0	0	0	0	0	0	0	0	0
2. Independent movement															
2.1. Associated with work and living condition															
- service	135	0	3	8	46	48	21	4	3	0	1	0	0	0	1
- work	108	0	9	37	27	14	7	5	2	3	1	3	0	0	0
- business	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
- better living	248	5	3	19	41	60	34	18	13	5	8	10	4	8	20
- for livelihood	10	0	0	1	1	5	2	1	0	0	0	0	0	0	0
- study	71	1	11	27	20	11	1	0	0	0	0	0	0	0	0
2.2. Associated with marriage															
- marriage	1044	0	0	42	630	298	62	7	5	0	0	0	0	0	0
- divorce	44	0	1	0	18	13	9	1	1	1	0	0	0	0	0
- widowhood	3	0	0	0	0	2	0	0	0	0	0	1	0	0	0
- separation	92	0	0	0	52	31	6	3	0	0	0	0	0	0	0
2.3. Return migration															
- after study	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
- after service	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
- after work	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
- return home	5	0	0	2	1	1	0	0	0	0	0	0	0	1	0
- family member	6	1	0	0	1	0	2	0	0	0	0	1	0	1	0
2.4. Others	5	0	0	0	1	2	1	0	0	0	0	0	0	0	1
3. Change in residence	6	0	0	0	0	1	1	0	1	2	0	1	0	0	0
4. For treatment	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0
5. River erosion	439	81	67	48	49	33	43	22	15	26	14	13	10	9	9
6. Family affairs	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0
7. Delivery	3	0	0	0	2	1	0	0	0	0	0	0	0	0	0
8. Not stated	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0

Table 6.7: Male In-migration by Cause of Movement and Age, 1986

Cause of movement	All ages	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	2272	451	277	206	203	205	303	192	138	91	63	42	41	26	34
1.2. Dependent movement															
- dependent	865	414	239	115	44	31	13	6	2	1	0	0	0	0	0
- to join spouse	2	0	0	0	0	0	1	0	0	1	0	0	0	0	0
- to join parents	69	6	3	7	22	10	15	6	0	0	0	0	0	0	0
- to join relatives	44	6	7	5	3	1	2	6	4	4	2	1	0	1	2
- adoption	6	4	0	2	0	0	0	0	0	0	0	0	0	0	0
2. Independent movement															
2.1. Associated with work and living condition															
- service	68	0	0	0	1	2	18	17	9	7	7	1	3	0	3
- work	11	0	1	4	1	0	1	0	0	0	2	0	0	2	0
- business	25	0	0	0	4	1	5	3	6	1	4	0	0	0	1
- better living	277	4	3	14	19	29	64	44	30	25	10	10	8	6	9
- for livelihood	26	0	0	2	2	5	8	4	2	1	1	0	0	1	0
- study	106	1	14	29	44	13	5	1	0	0	0	0	0	0	0
2.2. Associated with marriage															
- marriage	5	0	0	0	0	1	1	1	0	0	0	1	1	0	0
- divorce	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
- widowhood	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
- separation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2.3. Return migration															
- after study	5	0	0	1	0	3	1	0	0	0	0	0	0	0	0
- after service	109	0	0	0	10	15	23	15	11	11	6	3	6	4	5
- after work	7	0	0	1	1	0	1	2	0	0	0	0	1	0	1
- return home	24	0	0	0	2	2	7	6	2	1	0	1	0	1	1
- family member	350	0	0	10	32	56	95	45	44	24	11	16	7	4	7
2.4. Others	36	0	0	0	1	6	7	4	4	4	3	1	5	0	1
3. Change in residence	13	0	0	0	0	0	2	2	1	1	2	2	3	0	0
4. For treatment	0	0													
5. River erosion	100	16	8	14	11	10	6	9	3	1	6	3	4	7	3
6. Family affairs	121	0	1	2	5	20	28	21	19	9	9	3	3	0	1
7. Delivery	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8. Not stated	3	0	1	0	1	0	0	0	1	0	0	0	0	0	0

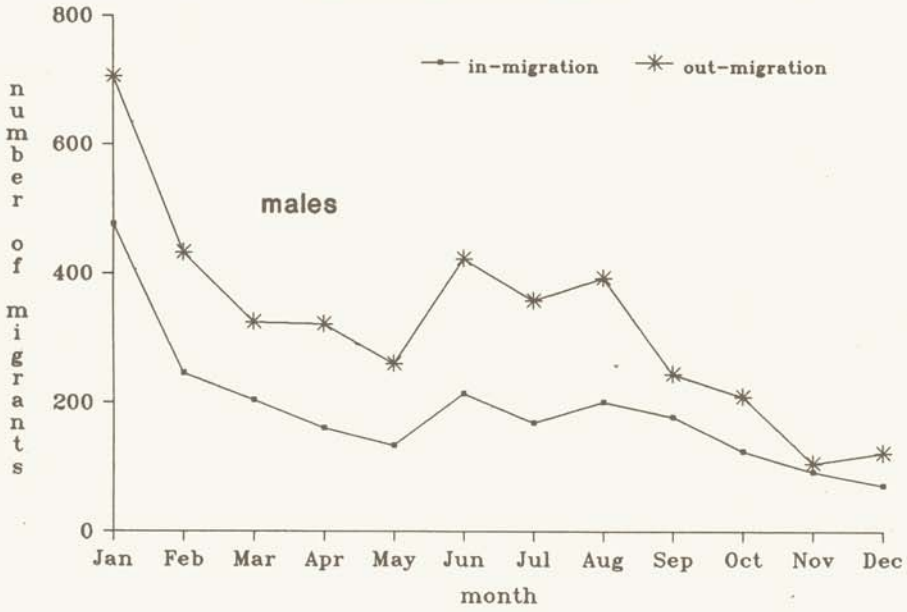
Table 6.8: Female In-migration by Cause of Movement and Age, 1986

Cause of movement	All ages	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	3234	477	277	196	1010	637	272	108	54	46	37	31	26	12	51
1.2. Dependent movement															
- dependent	1261	436	244	116	84	140	95	51	25	18	14	16	8	4	10
- to join spouse	173	0	0	1	58	68	26	6	6	4	2	0	0	1	1
- to join parents	120	10	6	10	38	27	23	4	2	0	0	0	0	0	0
- to join relatives	58	2	1	2	16	11	4	6	0	0	2	1	2	1	10
- adoption	12	12	0	0	0	0	0	0	0	0	0	0	0	0	0
2. Independent movement															
2.1. Associated with work and living condition															
- service	8	0	0	0	0	2	3	4	0	1	0	0	0	0	0
- work	18	0	1	6	7	1	1	0	0	1	0	1	0	0	0
- business	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
- better living	235	0	0	9	37	85	36	17	4	10	11	6	5	2	13
- for livelihood	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
- study	42	0	5	17	16	3	1	0	0	0	0	0	0	0	0
2.2. Associated with marriage															
- marriage	842	0	0	9	648	154	24	3	3	0	1	0	0	0	0
- divorce	64	0	0	0	21	32	8	1	1	1	0	0	0	0	0
- widowhood	10	0	0	1	1	1	4	1	1	0	1	0	0	0	0
- separation	139	0	0	2	46	65	17	5	2	1	0	0	0	0	1
2.3. Return migration															
- after study	2	0	0	1	1	0	0	0	0	0	0	0	0	0	0
- after service	4	0	0	0	1	1	2	0	0	0	0	0	0	0	0
- after work	5	0	0	1	2	2	0	0	0	0	0	0	0	0	0
- return home	4	0	0	0	1	1	2	0	0	0	0	0	0	0	0
- family member	103	0	0	11	15	25	14	6	3	5	2	0	6	3	13
2.4. Others	7	0	0	1	1	3	1	0	0	0	0	0	0	1	0
3. Change in residence	2	0	0	0	0	0	1	0	0	0	0	1	0	0	0
4. For treatment	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5. River erosion	110	16	20	9	15	13	8	3	6	3	4	5	5	0	3
6. Family affairs	9	0	0	0	0	1	3	1	1	2	0	1	0	0	0
7. Delivery	3	0	0	0	2	1	0	0	0	0	0	0	0	0	0
8. Not stated	3	1	0	0	0	0	2	0	0	0	0	0	0	0	0

Table 6.9: In- and Out-migration by Sex and Month, 1986

Age (years)	In-migration			Out-migration		
	Both sexes	Males	Females	Both sexes	Males	Females
January	1078	476	602	1350	706	644
February	573	247	326	914	432	482
March	526	204	322	720	324	396
April	354	160	194	657	322	335
May	332	133	199	547	260	287
June	529	214	313	862	423	439
July	409	169	240	717	358	359
August	506	201	305	842	393	449
September	414	178	236	489	244	245
October	352	125	227	437	210	227
November	235	93	142	258	106	152
December	200	72	128	306	122	184
All months	5506	2272	3234	8099	3900	4199

Figure 6.2: Number of In- and Out-migrants by Sex and Month, 1986



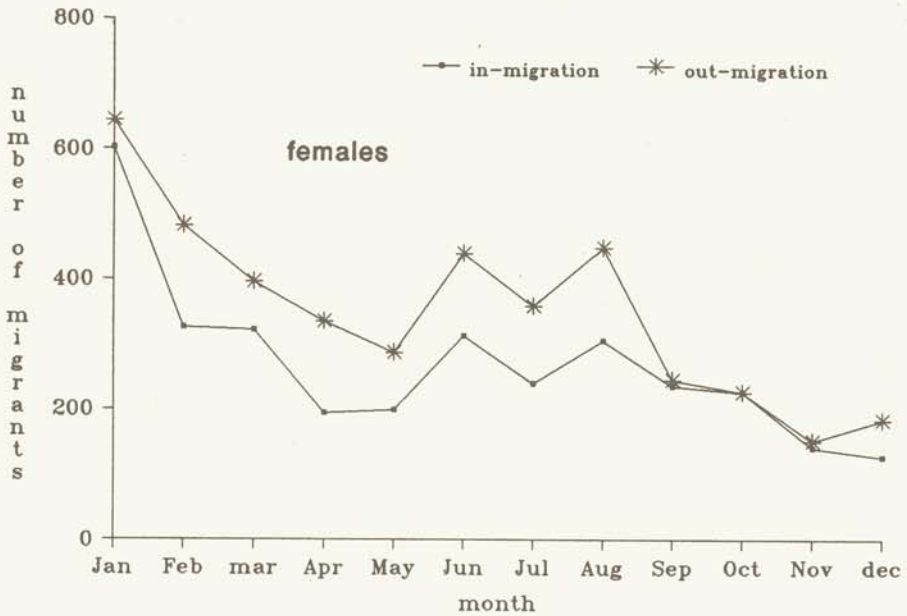


Table 6.10: In- and Out-migration by Sex and Major Categories of Reason for Migration, 1986

Reason for migration	In-migration				Out-migration			
	Males		Females		Males		Females	
	No.	Percent	No.	Percent	No.	Percent	No.	Percent
All reasons	2272	100.0	3234	100.0	3900	100.0	4199	100.0
Dependent	986	43.4	1624	50.2	1192	30.6	1977	47.1
Independent	1013	44.6	1476	45.6	2234	57.3	1766	42.1
- due to work and better living	513	22.6	303	9.4	2176	55.8	572	13.6
- due to marriage and marital disruption	5	0.2	1055	32.6	5	0.1	1183	28.2
- return migration	495	21.8	118	3.6	53	1.4	11	0.3
Others*	273	12.0	134	4.1	474	12.2	456	10.9

*This category includes causes such as change in residence, treatment for diseases, river erosion, family affairs, delivery, to see the family, and some unstated causes related to independent movement.

Appendix A

Names and Codes of Villages in the DSS Area, 1986

	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
					V35	Durgapur	VB9	Ramanathgonj
	K	Shahpur	V40	Masunda	V36	Ludhua	VB10	South Rampur
	L	Tatkhana	V41	Paton	V37	Charputia	D28	Bazarkhola
	M	Char Nayergaon	V42	Adhara (South)	V38	Galimkha	D29	Kirtonkhola
C	N	Aswinpur	V43	Kanachak	V45	Bakchar	D30	Banuakandi
	O	Nayergaon	V44	Panchdona	V46	Silinda	D31	Harina Bazarkhola
	P	Titerkandi	V64	Kawadi	V47	Tulatali	D32	Khalisha
	Q	Char Shibpur	V86	Adhara	V48	Gangkandi	D33	Nayanagar
	V27	Panchghoria	V88	Datikara	V49	Harina Bhabanipara	D34	Saidkharkandi
	V28	Khidirpur	VB11	Mehron			D35	Molla Kandi
	V30	Harion	D100	Barogaon	V50	Bakharpur	D88	Sankibhanga
	V39	Gobindapur	D101	Naojan	V51	Induriakandi	D89	Sankibangha
					V53	Chhoto Haldia		Namapara
	R	Nandalalpur	V52	Nayakandi	V58	Mohishmari	D90	Zahirabaj
	S	Tatua	V54	Balakandi	V65	Nayachar	D91	North Joypur
	T	Amuakanda	V55	Induria	V66	Thatalia	D92	West Joypur
	V15	Bhati Rasulpur	V57	Baluchar	V68	Sobahan	D93	Maizkandi
	V16	Binandapur	V63	Islamabad	V69	Naobangha	D94	Hazipur
D	V17	Hatighata		(East)	V70	South Joypur	D95	Tapaderpara
	V18	Torkey	V67	Majlishpur	V71	Khamarpara	D96	Rampur
	V25	Char Pathalia	V81	Sonaterkandi	V73	Sadardia	D97	Nayakandi
	V29	Shibpur(South)	V84	Shanbajkandi	V74	Ketundia	D98	Bara Haldia
	V33	Shibpur(North)	V89	Islamabad	V75	Mukundia	D99	Mandertoli
	V34	Satparia		(Middle)	V76	Chosoi		

*Division by block applies only to the MCH-FP area.

Appendix B

Mid-year Population, Births, and Deaths by Village, 1986

Village* code	Population	Live births	Deaths	Birth rate	Death rate
D	1486	48	11	32.3	7.4
W	2656	54	13	20.3	4.9
V10	1450	56	13	38.6	9.0
V11	1397	51	13	36.5	9.3
V31	8252	298	64	36.1	7.8
V32	2391	71	25	29.7	10.5
V59	864	25	13	28.9	15.0
V60	880	27	14	30.7	15.9
V61	644	23	3	35.7	4.7
V62	765	20	8	26.1	10.5
V72	5361	199	50	37.1	9.3
BLOCK A	26146	872	227	33.4	8.7
H	1176	44	16	37.4	13.6
V12	469	25	2	53.3	4.3
V13	725	21	5	29.0	6.9
V19	3042	96	33	31.6	10.8
V20	1016	42	13	41.3	12.8
V21	419	13	1	31.0	2.4
V22	576	20	7	34.7	12.2
V23	560	15	15	26.8	26.8
V24	2534	96	21	37.9	8.3
V26	2444	86	22	35.2	9.0
V56	1345	47	12	34.9	8.9
V82	1315	45	4	34.2	3.0
V83	496	20	4	40.3	8.1
V85	396	18	6	45.5	15.2
V87	553	22	6	39.8	10.8
VB12	3833	154	53	40.2	13.8
VB13	4327	147	56	34.0	12.9
BLOCK B	25226	911	276	36.1	10.9

(continued)

Appendix B (cont.)

Village* code	Population	Live births	Deaths	Birth rate	Death rate
K	908	24	7	26.4	7.7
L	438	14	3	32.0	6.8
M	139	6	1	43.2	7.2
N	1943	42	14	21.6	7.2
O	1233	46	14	37.3	11.4
P	1852	57	19	30.8	10.3
Q	345	8	5	23.2	14.5
V27	832	22	7	26.4	8.4
V28	1280	56	18	43.8	14.1
V30	533	19	5	35.6	9.4
V39	343	10	4	29.2	11.7
V40	683	25	10	36.6	14.6
V41	1348	42	11	31.2	8.2
V42	670	21	9	31.3	13.4
V43	819	28	8	34.2	9.8
V44	572	24	3	42.0	5.2
V64	4362	162	55	37.1	12.6
V86	761	37	4	48.6	5.3
V88	448	18	5	40.2	11.2
VB11	2378	75	24	31.5	10.1
D100	3149	98	26	31.1	8.3
D101	1227	46	11	37.5	9.0
BLOCK C	26263	880	263	33.5	10.0
R	1328	37	12	27.9	9.0
S	1037	43	10	41.5	9.6
T	1459	42	10	28.8	6.9
V15	536	11	8	20.5	14.9
V16	694	14	5	20.2	7.2
V17	1043	28	10	26.8	9.6
V18	3379	104	36	30.8	10.7
V25	1234	42	13	34.0	10.5
V29	533	17	10	31.9	18.8
V33	586	13	8	22.2	13.7
V34	762	27	7	35.4	9.2
V52	253	6	1	23.7	4.0
V54	557	21	2	37.7	3.6
V55	505	9	2	17.8	4.0
V57	1067	30	6	28.1	5.6
V63	1994	62	17	31.1	8.5
V67	561	13	4	23.2	7.1
V81	540	25	8	46.3	14.8
V84	1980	75	29	37.9	14.6
V89	1297	43	15	33.2	11.6
BLOCK D	21345	662	213	31.0	10.0
MCH-FP AREA	98980	3325	979	33.6	9.9

(continued)

Appendix B (cont.)

Village* code	Population	Live births	Deaths	Birth rate	Death rate
A	2472	112	45	45.3	18.2
B	1833	76	18	41.5	9.8
C	3230	141	42	43.7	13.0
F	1221	45	7	36.9	5.7
G	2281	90	31	39.5	13.6
J	402	20	5	49.8	12.4
U	7520	289	88	38.4	11.7
V01	700	31	9	44.3	12.9
V02	487	15	2	30.8	4.1
V03	660	27	9	40.9	13.6
V04	245	10	6	40.8	24.5
V05	3084	130	40	42.2	13.0
V06	2286	86	28	37.6	12.2
V07	386	12	5	31.1	13.0
V08	1184	45	14	38.0	11.8
V09	1058	37	9	35.0	8.5
V14	903	29	10	32.1	11.1
V35	3359	111	55	33.0	16.4
V36	4671	187	65	40.0	13.9
V37	375	15	5	40.0	13.3
V38	1514	52	19	34.3	12.5
V45	992	44	13	44.4	13.1
V46	334	17	1	50.9	3.0
V47	1741	77	27	44.2	15.5
V48	584	21	6	36.0	10.3
V49	1231	60	8	48.7	6.5
V50	741	37	14	49.9	18.9
V51	1380	56	14	40.6	10.1
V53	3025	115	35	38.0	11.6
V58	1217	46	14	37.8	11.5
V65	691	23	10	33.3	14.5
V66	839	34	15	40.5	17.9
V68	828	37	12	44.7	14.5
V69	848	21	5	24.8	5.9
V70	565	20	2	35.4	3.5
V71	403	20	2	49.6	5.0
V73	752	31	6	41.2	8.0
V74	1214	54	16	44.5	13.2
V75	385	15	6	39.0	15.6
V76	1474	65	23	44.1	15.6
V78	241	5	1	20.7	4.1
V79	320	9	2	28.1	6.3
V80	1016	34	13	33.5	12.8
V90	1100	49	17	44.5	15.5
V95	958	55	7	57.4	7.3
V96	539	29	4	53.8	7.4
V97	409	13	6	31.8	14.7
V98	206	6	3	29.1	14.6
V99	624	20	9	32.1	14.4

(continued)

Appendix B (cont.)

Village* code	Population	Live births	Deaths	Birth rate	Death rate
VB1	1007	37	12	36.7	11.9
VB2	864	24	8	27.8	9.3
VB3	2737	119	34	43.5	12.4
VB4	2580	92	32	35.7	12.4
VB5	766	38	11	49.6	14.4
VB6	355	17	8	47.9	22.5
VB7	193	10	1	51.8	5.2
VB8	1003	41	7	40.9	7.0
VB9	44	0	0	0.0	0.0
VB1	1528	83	19	54.3	12.4
D28	1102	47	15	42.6	13.6
D29	151	4	2	26.5	13.2
D30	727	27	5	37.1	6.9
D31	1079	38	15	35.2	13.9
D32	604	25	5	41.4	8.3
D33	922	54	18	58.6	19.5
D34	1325	55	21	41.5	15.8
D35	670	18	4	26.9	6.0
D88	1922	71	28	36.9	14.6
D89	617	28	6	45.4	9.7
D90	2152	77	23	35.8	10.7
D91	468	3	1	6.4	2.1
D92	260	0	0	0.0	0.0
D93	786	31	7	39.4	8.9
D94	1023	48	14	46.9	13.7
D95	356	13	3	36.5	8.4
D96	253	14	5	55.3	19.8
D97	670	25	5	37.3	7.5
D98	2685	99	27	36.9	10.1
D99	1929	64	28	33.2	14.5
COMPARISON AREA	95306	3775	1167	39.6	12.2

*See Village name in Appendix A.

Appendix C

Life Table Equations

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

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

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

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

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

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

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

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

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

Note: Greville's method, as suggested in Shryock, H.S., Seigel, 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

Staff of the DSS, 1986

Matlab Field Station

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Mr. A.F.M. Aminul Islam Khan
Mr. K.J.M. Mannan Pathan
Mr. A. Rashid Miah
Mr. Md. Serajul Hoque
Mr. Md. Ismail
Mr. M.A. Mannan Bakaul
Mr. Aftekharuzzaman

Recorders:

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Ms. Shahana Ahmed, HA

Health Assistants:

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Mr. Md. Mozammel Hoque
Mr. Md. Golam Hossain
Mr. Mr. Nazir Ahmed
Mr. Mr. Md. Abul Kashem
Mr. Md. Nurul Hoque
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Mr. Md. Zahirul Haque
Mr. Sadiquzzaman
Mr. Alfazuddin Chowdhury
Mr. Shah Mostafa Kamal
Mr. M.A. Malek Patwary
Mr. Md. Shah Alam Sikder
Mr. Monoranjan Das

Clerk:

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Mr. M.A. Kashem Shaikh
Ms. Lutfun Nahar
Mr. Abbas Bhuiya
Mr. Mridul K. Chowdhury
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Dr. Michael A. Strong is the DSS Project Director since September, 1988.

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AN APPEAL

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Each year, ICDDR,B treats over 70,000 patients attending its two hospitals, one in urban Dhaka,the other in rural Matlab. Though they are planted in Bangladeshi soil, they grow because of the dedication of thousands of concerned people throughout the world. The patients are mostly children with diarrhoea and associated illnesses and the services are offered free to the poorer section of the community.

Since these services are entirely dependent on financial support from a number of donors, now we at the ICDDR,B are establishing an entirely new endeavour: an ENDOWMENT FUND. We feel that, given securely implanted roots, the future of the hospitals can confidently depend upon the harvest of fruit from perpetually bearing vines.

To generate enough income to cover most of the patient costs of the hospitals, the fund will need about five million US dollars. That's a lot of money, but look at it this way:

JUST $150 IN THE FUND WILL COVER THE COST OF TREATMENT FOR ONE CHILD EVERY YEAR FOREVER !

We hope you will come forward with your contribution so that we can keep this effort growing forever or until the world is free of life-threatening diarrhoea. IT IS NOT AN IMPOSSIBLE GOAL.

Dr. Dilip Mahalanabis
Chairman, Hospital Endowment Fund Committee
GPO Box 128 - Dhaka, 1000, Bangladesh
Telephone: 600-171 through 600-178
Fax: (880-2)-883116

Azam Ansari

My contribution to the Hospital Endowment Fund is enclosed. Amount _____

Name _____

Address _____

Make out cheque and mail with this page to:

In the USA: The International Child Health Foundation, PO Box 1205, American City Building, Columbia, MD 21044.

Elsewhere: ICDDR,B Hospital Endowment Fund, GPO Box 128, Dhaka 1000, Bangladesh

Thank you. Signature

donations are tax deductible