

DEMOGRAPHIC SURVEILLANCE SYSTEM- MATLAB

VOLUME NINE

VITAL EVENTS
AND MIGRATION
-1979

REPORT PREPARED BY

Mridul K. Chowdhury

Abdur Razzaque

Stan Becker

A.M. Sarder

Stan D'Souza

ICDDR,B

SCIENTIFIC REPORT NO. 56

May 1982



INTERNATIONAL
CENTRE FOR
DIARRHOEAL DISEASE
RESEARCH,
BANGLADESH

DACCA, BANGLADESH

DEMOGRAPHIC SURVEILLANCE SYSTEM - MATLAB

Volume Nine

Vital Events and Migration - 1979

Report prepared by:

Mridul K. Chowdhury¹

Abdur Razzaque²

Stan Becker³

A.M. Sarder⁴

Stan D'Souza⁵

INTERNATIONAL CENTRE FOR
DIARRHOEAL DISEASE RESEARCH, BANGLADESH
G.P.O. Box 128, Dacca 2
Bangladesh

-
- 1 Assistant Scientist and Head, Data Management Branch
 - 2 Senior Statistical Officer
 - 3 Former Associate Scientist
 - 4 Senior Field Research Officer
 - 5 Scientific Programme Head

PREFACE

The International Centre for Diarrhoeal Disease Research, Bangladesh (ICDDR,B) is an autonomous, international, philanthropic and non-profit centre for research, education and training as well as clinical service. The Centre is derived from the Cholera Research Laboratory (CRL). The activities of the institution are to undertake and promote study, research and dissemination of knowledge in diarrhoeal diseases and directly related subjects of nutrition and fertility with a view to develop improved methods of health care and for the prevention and control of diarrhoeal diseases and improvement of public health programmes with special relevance to developing countries. ICDDR,B issues annual report, working paper, scientific report, special publication, monograph, thesis and dissertation, and newsletter which demonstrate the type of research activity currently in progress at ICDDR,B. The views expressed in these papers are those of authors and do not necessarily represent views of International Centre for Diarrhoeal Disease Research, Bangladesh. They should not be quoted without the permission of the authors.

CONTENTS

	<u>Pages</u>
ABSTRACT	1
INTRODUCTION	2
RESULTS	2
Population Change...	2
Deaths and Mortality	2
Births and Fertility	9
Marriage and Divorce	16
Migration	16
Mortality and Fertility in the MCH-FP and Comparison Area ...	27

LIST OF TABLES:

Table I : Mid-Year Population by Age and Sex, 1979	5
Table II : Mid-Year Population, Events Registered and Population Change in 1979	7
Table III: Deaths by Age Group, 1979	9
Table IV : Death Rates in 1979 by Age and Sex	10
Table V : Abridged Life Tables for Males and Females Based on 1979 Mortality Rates... ..	11
Table VI: Abridged Life Table for Both Sexes Based on 1979 Mortality Rates.	12
Table VII: Number and Rates of Termination of Pregnancies by Type, 1979... ..	15
Table VIII: Age Specific Fertility Rates, 1979.. ...	17
Table IX : Mean Number of Previous Pregnancies and Surviving Children for Mothers of Different Ages Who had Live Births in 1979.. ...	18
Table X : Age-Sex Specific Marriage Rates, 1979	18
Table XI : Groom's Age at Marriage by Previous Marital Status, 1979... ..	22
Table XII: Bride's Age at Marriage by Previous Marital Status, 1979... ..	23
Table XIII: Percent Divorces in 1979 by Duration of Marriage at Divorce and Husband's Age	24
Table XIV: In and Out-Migrants by Sex and Major Categories of Reasons for Migration, 1979	25
Table XV: Age and Sex Specific Migration Rates by Direction, 1979	28
Table XVI: Age Specific Death Rates in MCH-FP and Comparison Area, Matlab, 1979	30
Table XVII: Fertility Rates by Age and Area in Matlab, 1979...	31

LIST OF FIGURES:

Figure 1: Map of Bangladesh showing the Study Area	3
Figure 2: Matlab Area Showing Villages of Demographic Surveillance System, 1979	4

CONTENTS (contd.)

Pages

Figure 3: Age Pyramid of the 1979 Estimated Mid-Year Population	6
Figure 4: Number of Live Births, Total Deaths and Natural Increase by Month in 1979	8
Figure 5: Probability of Survival from Birth to Age X by Sex from Life Table of 1979	13
Figure 6: Expectation of Years of Remaining Life from Life Table of 1979 by Age and Sex.. ...	14
Figure 7: Age Specific Fertility Rates, Matlab, 1979	32
Figure 8: Mean Number of Pregnancies and Mean Number of Surviving Children for Women Who Delivered Live Birth in 1979 by Age... ..	19
Figure 9: Marriage Rates in 1979 by Age and Sex.	20
Figure 10: Number of Marriages and Divorces Registered in 1979 by Month	21
Figure 11: Number of In and Out Migrations of Males and Females Registered in 1979 by Month.	26
Figure 12: Male and Female Migration Rates in 1979 by Age, Sex and Direction.	29
APPENDIX A: List of Retained Villages Under New DSS, Matlab, 1979	33
APPENDIX B: Life Table Equations	34
APPENDIX C: The Basic Tabulations (Table C1 - C18)	35

ABSTRACT

This is the ninth volume in a series of scientific reports produced by the International Centre for Diarrhoeal Disease Research, Bangladesh (former Cholera Research Laboratory) presenting basic tabulations from the registration of births, deaths, marriages, divorces and migrations in the Demographic Surveillance System of the Matlab Field Station. The present volume presents results for the calendar year 1979 for the reduced surveillance area.

INTRODUCTION

The present volume reports the results obtained from Demographic Surveillance System (DSS), Matlab in the calendar year 1979. In volume one of this series, a detailed description of the DSS, its operation and descriptions are given. From 1978, however, some modifications in the DSS have been introduced in terms of area-coverage and field operation. These changes are detailed in volume seven of this series.

RESULTS

Population Change

The DSS area, comprised of 149 villages, had a population size of 1,75,887 as of July 1, 1979. This figure was obtained when the census population of January 1, 1979 was updated, with the help of computer, for all registered births, deaths and migrations (in/out) which occurred from January 1, 1979 to June 30, 1979. The process of updating involved addition of births and immigrations, and deletion of deaths and out-migrations from the 1979 census. The age-sex structure of the population as observed is presented in Table I and Figure 3. The sex ratio was 102 males per 100 females: 44 percent of population were below 15 years of age and another 3 percent of the population were 65 years and over. This population structure is basically the same as that of 1978.

Table II gives a general review of the demographic events registered in 1979. With 7,190 registered births and 2,429 registered deaths the crude birth and death rates were found to be 40.9 and 13.8 respectively, giving a rate of natural increase of 27.1 per 1,000. The 7,175 persons leaving the DSS, outnumbered the 5,819 immigrants causing a net loss of 7.7 per 1,000 population.

The number of marriages stood at 3,278 or 18.6 per 1,000 population with divorces showing a ratio of 169.9 per 1,000 marriages.

Figure 4 shows the monthwise distribution of births and deaths with differencing giving the natural increase. As in the other years the seasonality of births is evident with the peak in November and the trough in May-June.

Deaths and Mortality

Of the 2,429 deaths registered in 1979, 35 percent were infants, 19 percent were aged 1-4 years and 23 percent were in the age group 60 years and above (Table III).

Figure 1

Map of Bangladesh showing the study area



FIGURE:2 MATLAB AREA SHOWING VILLAGES OF
DEMOGRAPHIC SURVEILLANCE SYSTEM, 1979

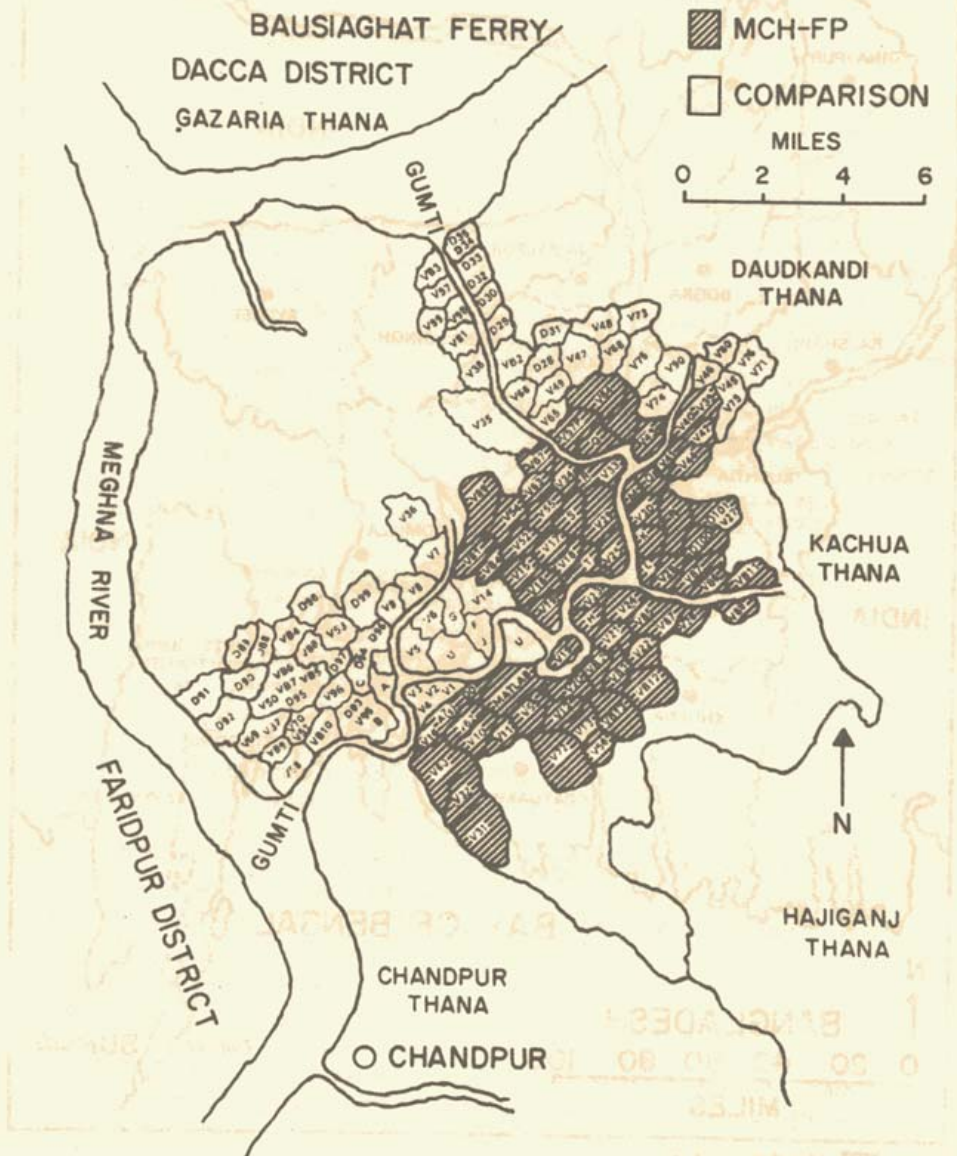


TABLE I--MID-YEAR POPULATION BY AGE AND SEX, 1979

Age (Years)	N u m b e r			P e r c e n t		
	Both sexes	Males	Females	Both sexes	Males	Females
All ages	175887	88655	87232	100.0	100.0	100.0
0 - 4	27454	14153	13301	15.6	16.0	15.2
0	5828	2940	2888	3.3	3.3	3.3
1	5892	2993	2899	3.3	3.4	3.3
2	6926	3575	3351	3.9	4.0	3.8
3	4189	2224	1965	2.4	2.5	2.3
4	4619	2421	2198	2.6	2.7	2.5
5 - 9	26482	13785	12697	15.1	15.5	14.6
10 - 14	23411	11948	11463	13.3	13.4	13.1
15 - 19	22910	11309	11601	13.1	12.7	13.3
20 - 24	14174	7228	6946	8.1	8.1	8.0
25 - 29	9494	4579	4915	5.4	5.2	5.6
30 - 34	8684	3793	4891	4.9	4.3	5.6
35 - 39	8634	3797	4837	4.9	4.3	5.5
40 - 44	8278	4099	4179	4.7	4.6	4.8
45 - 49	6861	3517	3344	3.9	4.0	3.8
50 - 54	5647	2973	2674	3.2	3.6	3.1
55 - 59	4554	2397	2157	2.6	2.7	2.5
60 - 64	3363	1810	1553	1.9	2.0	1.8
65 +	5941	3267	2674	3.4	3.7	3.1

Fig. 3- AGE PYRAMID OF THE 1979 MID-YEAR
POPULATION

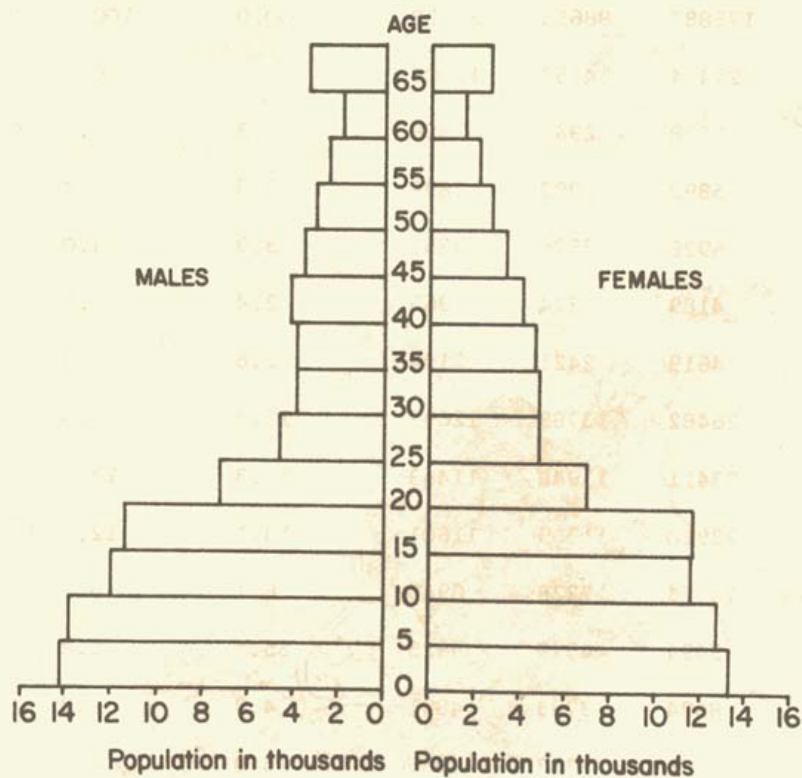


TABLE II--MID-YEAR POPULATION, EVENTS REGISTERED AND POPULATION CHANGE IN 1979

	Number	Rate per 1000 Population
Total Population, 1979 Mid-Year	1,75,887	-
MCH-FP area	89,574	-
Comparison area	86,313	-
<u>Events registered</u>		
(January to December 1979)		
<u>Birth</u>		
Whole area	7,190	40.9
MCH-FP area	3,129	34.9
Comparison area	4,061	47.0
<u>Death</u>		
Whole area	2,429	13.8
MCH-FP area	1,082	12.1
Comparison area	1,347	15.6
In-migration	5,819	33.1
Out-migration	7,175	40.8
Marriages	3,278	18.6
Divorces	557	169.9*
<u>Population change</u>		
(January to December 1979)		
Net-migration	- 1,356	- 7.7
Natural increase	4,761	27.1
MCH-FP area	2,047	22.9
Comparison area	2,714	31.4
Net increase	3,405	19.4

* Ratio per 1000 marriages.

Fig.4-NUMBER OF LIVE BIRTHS, TOTAL DEATHS
AND NATURAL INCREASE BY MONTH IN 1979.

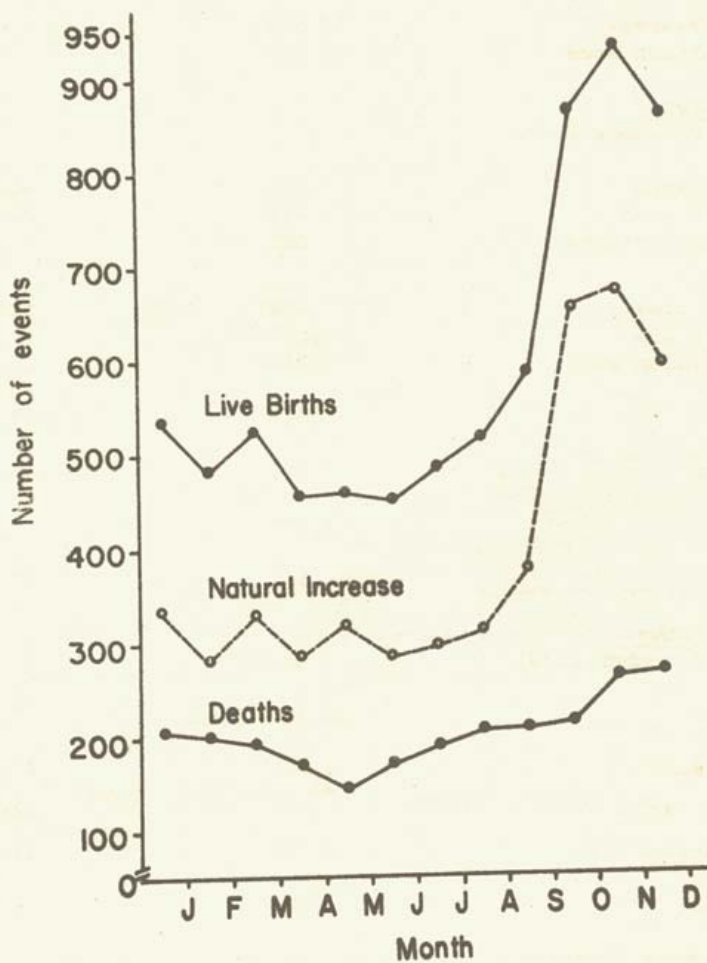


TABLE III--DEATHS BY AGE GROUP, 1979

Age Group	Number	Percentage*
All Ages	2429	100
< 1	837	35
1 - 4	467	19
5 - 9	128	5
10 - 19	59	2
20 - 39	120	5
40 - 59	269	11
60 and over	549	23

* Rounded off to the nearest integer.

The age-sex-specific death rates are presented in Table IV. The conventional infant mortality rate was 116.4 per 1,000 live births, with 73.0 and 43.4 as its neonatal and postneonatal components respectively. In the neonatal group the death rate for males was higher than for females while in the postneonatal group the reverse was true although the differences were small. In most of the other age groups females had higher mortality than the males.

Abridged life tables were constructed (Tables V, VI and Figures 5 and 6) following the methodology given in Appendix B. Given the mortality experience of 1979, life expectation at birth for males would be 56.1 years while for females it would be 52.8 years. Longevity was highest for males aged 3 years with an expectation of an additional 63.3 years of life and for females the peak was at 4 years of age with an expectation of additional 60.8 years. The 1979 mortality schedule yielded higher expectation of life for males than females at all age groups.

Births and Fertility

Among the 8,071 total pregnancies terminating in 1979 in the Matlab DSS area there were 7,190 live births (Table VII). The reported fetal wastage pregnancies were 953 yielding a ratio of 133.9 fetal losses per 1,000 live birth pregnancies with 93.0 and 40.9 as early (gestation less than 7 months) and late (gestation beyond 7 months) fetal loss components.

With regard to reporting of multiple confinements, there were no triplicates, but twin birth pregnancies numbered 84 of which 78 ended either in one or two live births and the rest in fetal wastages.

TABLE IV--DEATH RATES IN 1979 BY AGE AND SEX

Age at death	Rate per 1000 Population		
	Both Sexes	Males	Females
All ages	13.8	13.4	14.2
Under 1 year	116.4*	118.7*	114.0*
Under 1 month	73.0*	77.2*	68.5*
1 - 11 months	43.4*	41.4*	45.5*
1 - 4 years	21.6	16.1	27.6
1	33.3	26.1	40.8
2	23.0	16.2	30.1
3	16.0	12.6	19.8
4	9.7	6.6	13.2
5 - 9	4.8	4.5	5.2
10 - 14	0.9	0.8	1.1
15 - 19	1.6	0.7	2.5
20 - 24	2.5	1.9	3.0
25 - 29	2.3	1.5	3.1
30 - 34	3.2	2.4	3.9
35 - 39	4.1	3.2	4.8
40 - 44	4.4	5.1	3.6
45 - 49	10.4	13.1	7.5
50 - 54	11.3	13.1	9.3
55 - 59	21.5	24.6	18.1
60 - 64	30.0	32.6	27.0
65 +	75.4	68.3	84.1

* Rate per 1000 live births.

TABLE V--ABRIDGED LIFE TABLES FOR MALES AND FEMALES
 BASED ON 1979 MORTALITY RATES¹

Age	Males				Females			
	$1000\ nq_x$	l_x	nL_x	e_x^o	$1000\ nq_x$	l_x	nL_x	e_x^o
0	118.7	100,000	91,406	56.1	114.0	100,000	91,746	52.8
1	25.8	88,130	86,788	62.7	40.0	88,600	86,509	58.6
2	16.1	85,856	85,165	63.3	29.7	85,056	83,793	60.0
3	12.5	84,474	83,946	63.3	19.6	82,530	81,721	60.8
4	6.6	83,418	83,142	63.1	13.1	80,912	80,382	61.1
5	22.3	82,867	410,667	62.6	25.7	79,852	394,615	60.9
10	4.0	81,019	405,000	58.9	5.5	77,800	389,090	57.4
15	3.5	80,695	402,857	54.1	12.4	77,372	383,600	52.7
20	9.5	80,413	402,105	49.3	14.9	76,413	379,667	48.3
25	7.5	79,649	398,667	44.8	15.4	75,274	373,871	44.0
30	11.9	79,051	391,666	40.1	19.3	74,115	366,667	39.6
35	15.9	78,111	388,125	35.5	23.7	72,685	358,958	35.4
40	25.2	76,869	379,803	31.0	17.9	70,962	352,778	31.2
45	63.6	74,932	363,817	26.8	36.9	69,692	342,933	26.7
50	63.6	70,166	340,610	23.4	45.5	67,120	328,387	22.6
55	116.3	65,704	310,650	19.8	86.8	64,066	307,238	18.6
60	151.3	58,062	269,448	17.1	126.9	58,505	275,000	15.1
65 +	1000.0	49,278	721,493	14.6	1000.0	51,080	607,372	11.9

¹ See Appendix B for equations used.

TABLE VI--ABRIDGED LIFE TABLE FOR BOTH SEXES BASED ON 1979 MORTALITY RATES

Age	Both Sexes			
	$1000 \frac{q}{n} x$	l_x	$n L_x$	e_x^o
0	116.4	100,000	91,573	54.5
1	32.8	88,360	86,650	60.6
2	22.7	85,462	84,492	61.7
3	15.9	83,522	82,858	62.1
4	9.7	82,194	81,795	62.1
5	23.7	81,397	401,875	61.7
10	4.5	79,468	397,778	58.1
15	8.0	79,110	395,625	53.3
20	12.4	78,477	389,600	48.7
25	11.4	77,503	384,348	44.3
30	15.9	76,619	380,625	39.8
35	20.3	75,401	373,415	35.4
40	21.8	73,870	365,909	31.1
45	50.8	72,260	352,981	26.7
50	55.1	68,589	334,425	23.0
55	102.3	64,810	308,418	19.2
60	140.1	58,179	271,700	16.1
65 +	1000.0	50,028	663,501	13.3

Fig.5- PROBABILITY OF SURVIVAL FROM BIRTH TO AGE X BY SEX FROM LIFE TABLES OF 1979

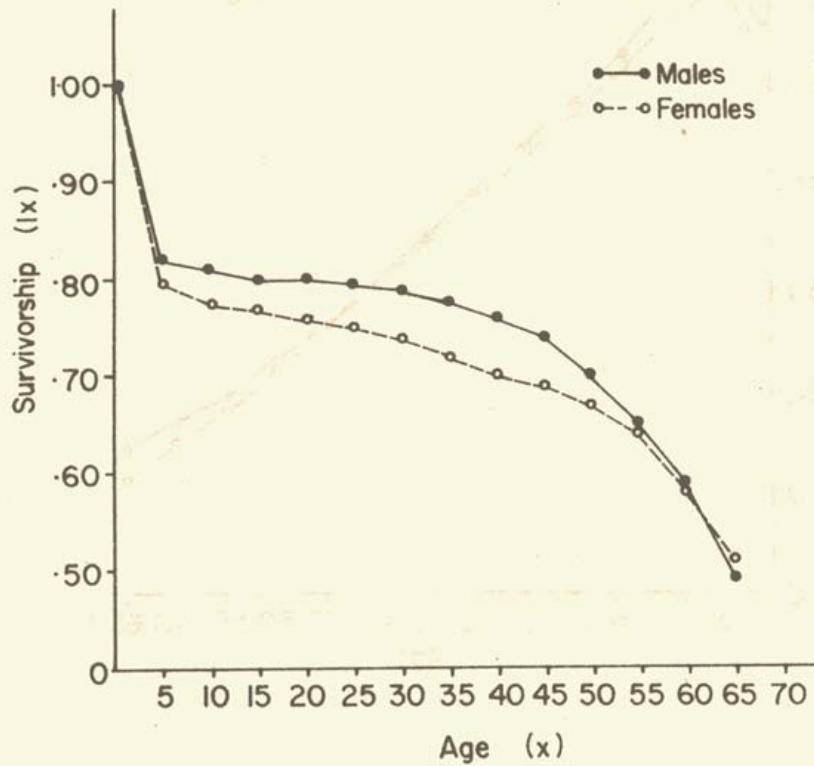


Fig.6-EXPECTATION OF YEARS OF REMAINING
LIFE FROM LIFE TABLE OF 1979 BY AGE & SEX

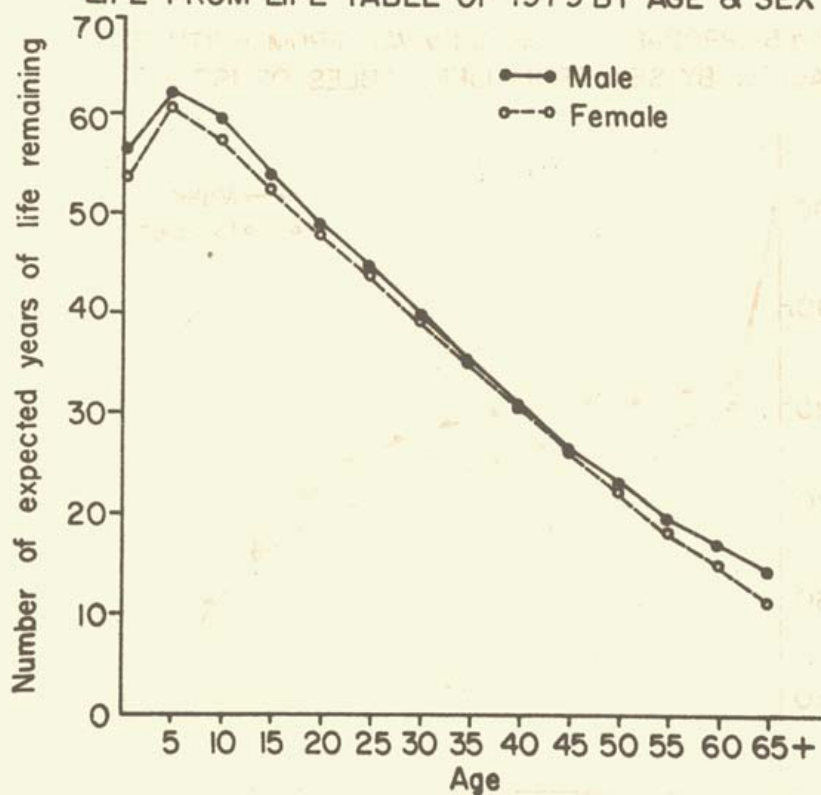


TABLE VII--NUMBER AND RATES OF TERMINATION OF PREGNANCIES BY TYPE, 1979

Type of pregnancy termination	Number	Rate
Total pregnancies	8071	-
Live birth pregnancies*	7118	40.5 **
Male births	3716	-
Female births	3474	-
Fetal Wastage pregnancies	953	133.9 ***
Early (miscarriages)	662	93.0
Late (stillbirths)	291	40.9
Twin birth pregnancies	84	-
Live birth pregnancies	78	10.9 ***
Two live births	72	-
One live birth	6	-
Stillbirth pregnancies	1	0.1 ***
Miscarriage pregnancies	5	0.7 ***

* Male and female births do not add to total live birth pregnancies because of twins.

** Rate per 1,000 population.

*** Ratio per 1,000 live birth pregnancies.

Of the total 7,190 live births, (including the twins) there were 3,716 males and 3,474 females giving a sex ratio at birth of 107.0.

The age specific fertility rates for 1979 are presented in Table VIII. Fertility was highest (299 live births per 1,000) for women aged 20-29 years, thereafter declining rapidly. The general fertility rate was 177 live births per 1,000 women 15-49 years of age. The total fertility rate was 5.9 children per woman. This, combined with male-female sex-ratio at birth 107.0 and the data on female mortality, yields a net reproduction rate of 2.1 female children per woman. This implies that each woman of the present generation would produce 2.1 daughters who would survive to become mothers in the next generation with a time gap of 27.4* years. For women giving birth during the year the mean number of previous pregnancies increased from 0.4 in the age group 15-19 to a maximum of 8.6 in the age group 45 and over (Table IX). For the same women, the mean number of surviving children was 2.2 as against 3.2 previous pregnancies. Thus 71 percent of the previously born children were surviving at the time of the present birth (Figure 8).

Marriage and Divorce

During 1979, 3,278 marriages were recorded. Table X (Figure 9) presents the age-sex specific marriage rates. For females, the marriage rate was highest (213 per 1,000) at ages 15-19 years while for males the highest rate was in the age group 25-29 years (267 per 1,000). As in other years, seasonality of marriage was present with the highest number in February-March. Divorces did not show any seasonal variation (Figure 10).

Of the 3,278 grooms, 2,446 were single, while 151 were already married, thereby yielding an incidence of polygamy of 46.1 per 1,000 marriages. Among the grooms who were marrying for the first time the median age of marriage was 24.7 years, and for the brides it was 17.6 years (Tables XI and XII).

Table XIII presents the divorces in 1979 by duration of marriage and husband's age. Divorces were mostly to younger couples. The average duration of marriage was 23 months at the time of divorce (Table C 16).

Migration

In the DSS area there were 5,819 in-migrants and 7,175 out-migrants registered in 1979 giving a net out-migration rate of 7.7 per 1,000 during the year. For in-migrants there were 82 males for every 100 females; while for the out-migrants there were 88 males for every 100 females (Table XIV). For both sexes and both directions of movement, the number of persons migrating is highest in January and it declines slowly thereafter (Figure 11).

* For method see Shyrock et al. (1975): The Methods and Materials in Demography, Vol.2, p. 526-529.

TABLE VIII--AGE SPECIFIC FERTILITY RATES, 1979

Age group (Year)	Number of live births	Number of women*	Fertility rate (per 1000 women)
All ages	7,190	40,713	176.6
15 - 19	1,505**	11,601	129.7
20 - 24	2,061	6,946	296.7
25 - 29	1,484	4,915	301.9
30 - 34	1,200	4,891	245.3
35 - 39	744	4,837	153.8
40 - 44	167	4,179	40.0
45 - 49	29***	3,344	8.7
Total fertility rate		5,880	
General fertility rate		177	
Gross reproduction rate		2,841	
Net reproduction rate		2,106	

* Figures obtained from mid-year population distribution.

** Births which occurred to mothers below age 15 were included in this group.

*** Births to mothers age 50 and over are included in this group.

TABLE IX--MEAN NUMBER OF PREVIOUS PREGNANCIES AND SURVIVING CHILDREN FOR MOTHERS OF DIFFERENT AGES WHO HAD LIVE BIRTHS IN 1979

Age of mother	Number of mothers	Mean number of previous pregnancies	Mean number of surviving children
All ages	7118	3.1	2.2
< 15	13	0.1	0.1
15 - 19	1479	0.4	0.2
20 - 24	2046	1.6	1.1
25 - 29	1473	3.5	2.5
30 - 34	1192	5.3	3.8
35 - 39	730	7.1	5.1
40 - 44	159	8.3	5.9
45 +	26	8.6	6.2

TABLE X--AGE-SEX SPECIFIC MARRIAGE RATES, 1979

Age at marriage	Rate per 1,000 population***		
	Both sexes	Males	Females
All ages	53.8*	54.0*	53.5*
10 - 14	10.0	.4	19.9
15 - 19	120.0	24.3	213.2
20 - 24	115.0	160.6	67.5
25 - 29	136.0	266.9	14.0
30 - 34	40.6	85.9	5.5
35 - 39	16.1	34.5	1.7
40 - 44	8.7	17.1	.5
45 - 49	6.4	12.2	.3**
50 - 54	4.6	8.7	-
55 - 59	2.9	5.4	-
60 - 64	1.8	3.3	-
65 +	.5	.9	-

* Mid-year population age 10 years and over was used to compute the rates.

** Mid-year population age 45 and over was used to compute the rate.

*** Rates per 1,000 population irrespective of previous marital status.

Fig.8—MEAN NUMBER OF PREGNANCIES AND MEAN NUMBER OF SURVIVING CHILDREN FOR WOMEN WHO DELIVERED LIFE BIRTHS IN 1979 BY AGE

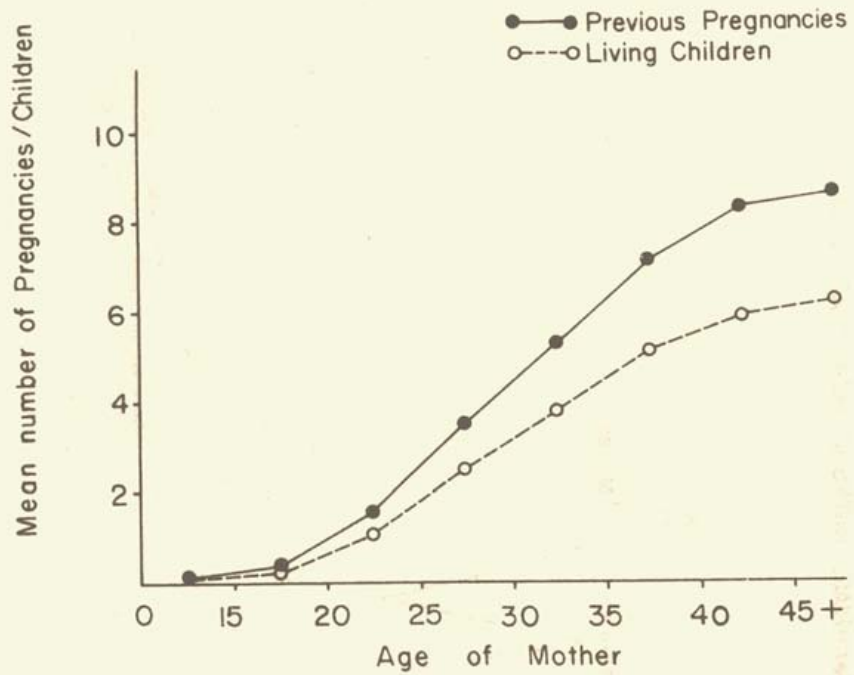


Fig. 9—MARRIAGE RATES IN 1979 BY AGE AND SEX

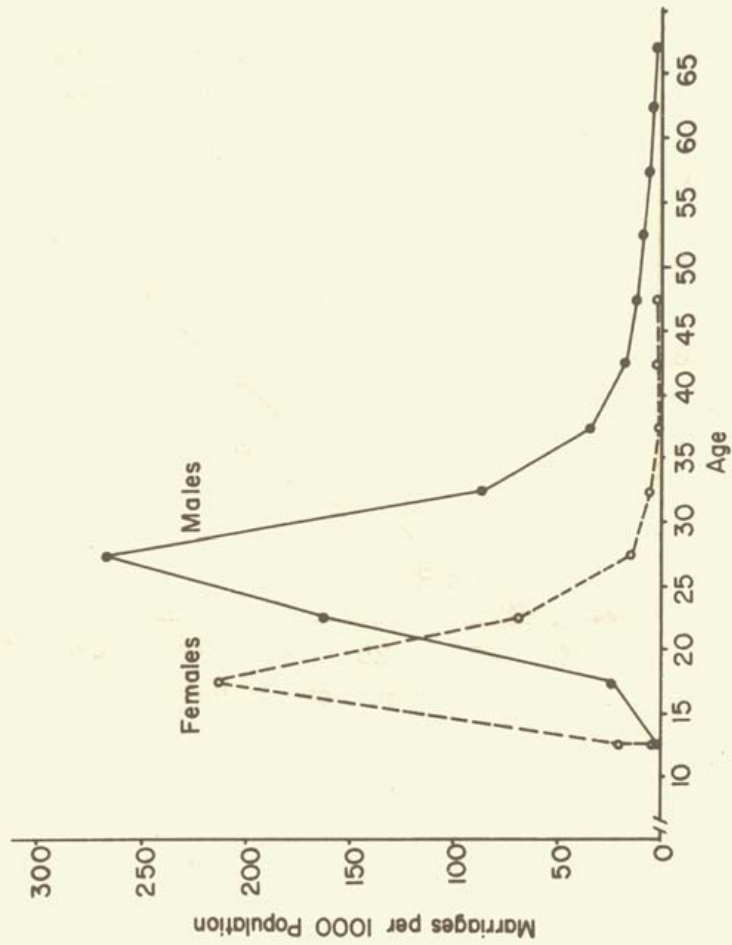


Fig.10-NUMBER OF MARRIAGES AND DIVORCES
REGISTERED IN 1979 BY MONTH.

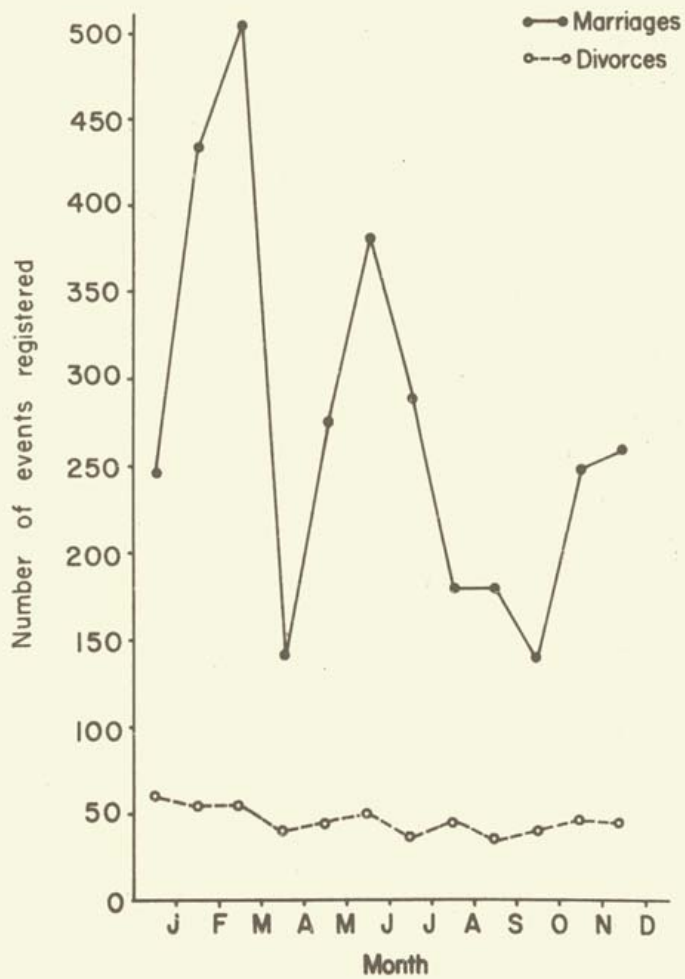


TABLE XII--BRIDE'S AGE AT MARRIAGE BY PREVIOUS MARITAL STATUS, 1979

Age Group	Previous marital status							
	All brides		Single		Widowed		Divorced	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
All ages	3278	100.0	2739	100.0	43	100.0	496	100.0
10 - 14	228	7.0	221	8.1	-	-	7	1.4
15 - 19	2473	75.5	2237	81.7	7	16.3	229	46.1
20 - 24	469	14.3	273	9.9	12	27.9	184	37.2
25 - 29	69	2.1	8	0.3	15	34.9	46	9.3
30 - 34	27	0.8	-	-	4	9.3	23	4.6
35 - 39	8	0.2	-	-	3	7.0	5	1.0
40 +	4	0.1	-	-	2	4.6	2	0.4
Median Age	17.8		17.6		25.8		20.3	
Mean Age	18.2		17.6		27.0		21.2	
Standard deviation	3.3		2.2		9.0		4.6	

TABLE XIII--PERCENT DIVORCES IN 1979 BY DURATION OF MARRIAGE AT DIVORCE AND HUSBAND'S AGE

Husband's age at time of divorce	Number of divorces of all duration	Less than 6	Percent divorces by duration (months) of marriages					
			6-11	12-23	24-35	36-47	48-59	60+
All ages	557	25	17	25	13	7	2	11
15 - 24	163	23	23	32	15	5	1	1
25 - 29	193	26	16	27	15	7	1	8
30 - 34	90	23	13	19	11	15	6	13
35 - 39	54	22	13	13	11	4	-	37
40 - 44	20	40	5	15	5	5	10	20
45 +	37	32	16	22	-	8	-	22

TABLE XIV--IN AND OUT MIGRANTS BY SEX AND MAJOR CATEGORIES OF REASONS FOR MIGRATION, 1979

Reasons	In-migration				Out-migration			
	Males		Females		Males		Females	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
All reasons	2621	100.0	3198	100.0	3352	100.0	3823	100.0
Dependent movement	870	33.2	1296	40.5	983	29.3	1669	43.6
Independent movement	1683	64.2	1828	57.2	2296	68.5	2125	55.6
- due to work & better living	1150	43.9	642	20.1	2250	67.1	820	21.4
- due to marriage and marital disruption	28	1.1	1125	35.2	7	0.2	1276	33.4
- return migration	505	19.2	61	1.9	39	1.2	29	0.8
Others*	68	2.6	74	2.3	73	2.2	29	0.8

* This category includes causes like change in residence, treatment for diseases, and some unstated causes related to independent movements.

Fig. 11 – NUMBER OF IN AND OUT MIGRATIONS OF
MALES & FEMALES REGISTERED
IN 1979 BY MONTH

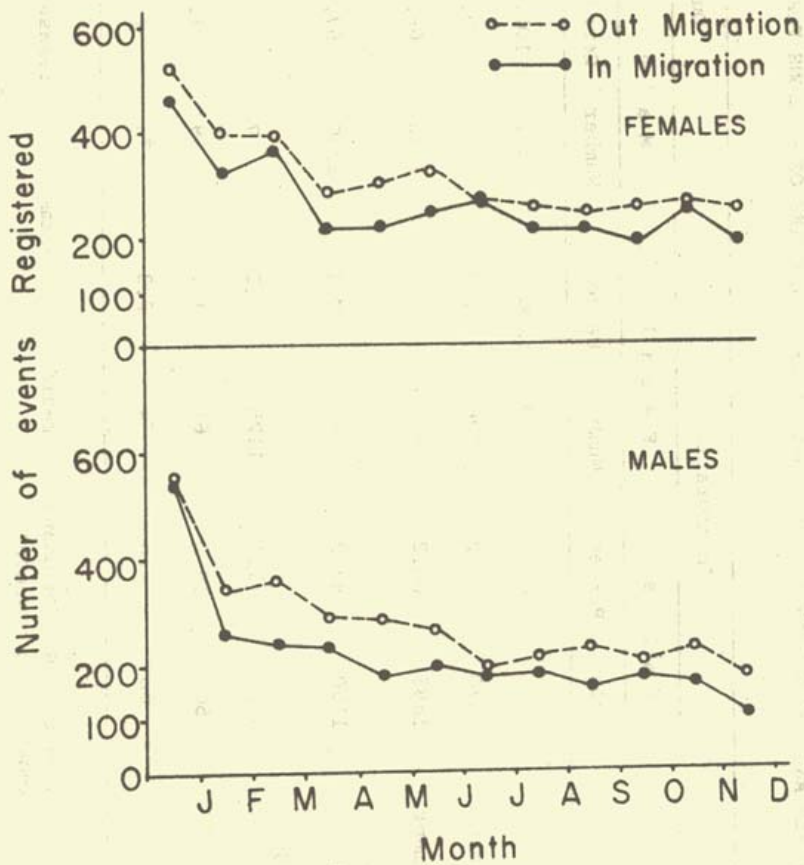


Table XV and the Figure 12 present the age-sex specific in and out-migration rates. In almost all ages the rates of out-migration were higher than the rates of in-migration. For females, the age group 15-19 years had the highest rate while for males the peak was for ages 20-34 years. For males most of the movements were occupation related. 44 percent of in-migrating males and 67 percent of out-migrating males gave work as the principal cause of movement. For females marriage and marital disruption caused a substantial amount of movement, (35.2 percent of in-migrants and 33.4 percent of out-migrants gave these reasons) though movements due to other causes were also substantial (Table XIV).

Mortality and Fertility in the MCH-FP and Comparison Area

The population sizes in the MCH-FP and Comparison area were 89,574 and 86,313 respectively. The crude rates (per 1,000) of birth and death were 34.9 and 12.1 for MCH-FP area, and 47.0 and 15.6 for the Comparison area (Table II).

In Table XVI, the age-sex specific death rates for the two areas are given. Mortality in the first year of life was higher in the Comparison area than in the MCH-FP area.

Table XVII and Figure 7 present the fertility schedules for the two areas. For all ages of women fertility was higher in the Comparison area than in the MCH-FP area during the period. This resulted in 30 percent lower total fertility in the MCH-FP area as compared with the Comparison area.

TABLE XV--AGE AND SEX SPECIFIC MIGRATION RATES BY DIRECTION, 1979*

Age group	Both Sexes		M a l e s		F e m a l e s	
	IN	OUT	IN	OUT	IN	OUT
All ages	33.1	40.8	29.6	37.8	36.7	43.8
Under 5	29.1	33.8	29.6	32.1	28.5	35.6
5 - 9	19.4	22.5	20.7	24.3	17.9	20.6
10 - 14	25.0	28.6	21.8	28.2	28.4	29.0
15 - 19	71.0	90.7	28.1	56.1	112.8	124.3
20 - 24	52.8	85.6	45.5	78.9	60.3	92.3
25 - 29	55.4	58.8	71.0	70.8	40.9	47.6
30 - 34	33.3	37.3	53.8	54.0	17.4	24.3
35 - 39	27.2	26.8	41.3	40.0	16.1	16.3
40 - 44	16.8	19.2	24.4	25.6	9.3	12.9
45 - 49	16.6	16.5	26.2	21.9	6.6	10.8
50 - 54	11.5	16.3	13.1	17.2	9.7	15.3
55 - 59	13.0	12.5	12.5	12.1	13.4	13.0
60 - 64	9.5	19.3	13.3	18.2	5.2	20.6
65 +	14.8	15.3	11.3	13.8	19.1	17.2

* Rate per 1,000 mid-year population.

Fig.12-MALE AND FEMALE MIGRATION RATES IN 1979 BY AGE SEX & DIRECTION

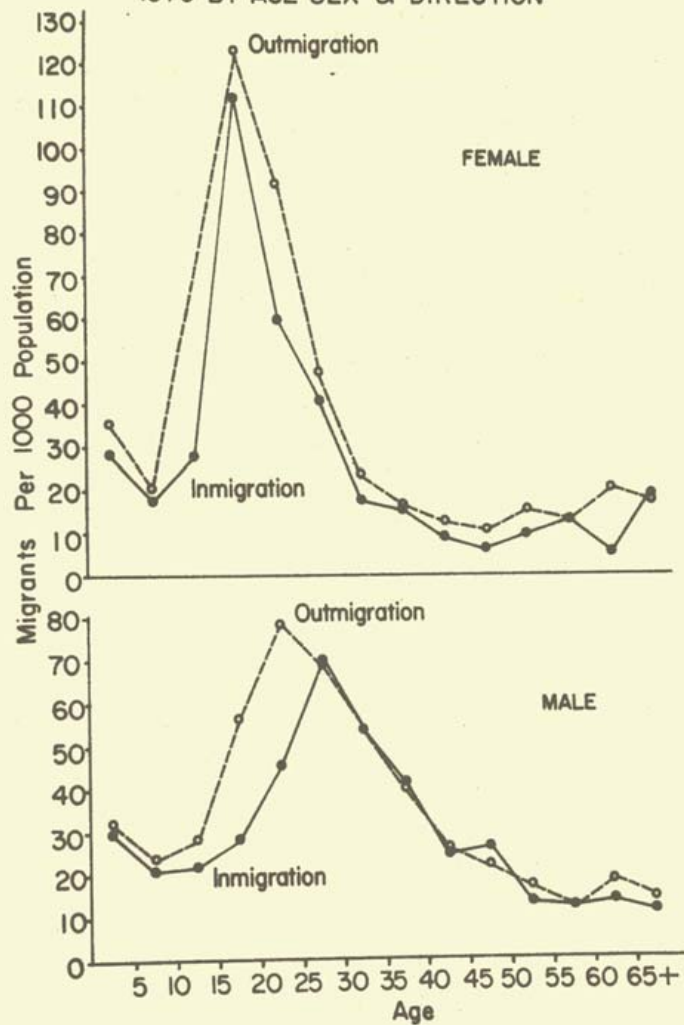


TABLE XVI--AGE SPECIFIC DEATH RATES IN MCH-FP AND COMPARISON AREA,
MATLAB, 1979

Age at death (years)	Rate per 1,000 population					
	MCH-FP Area			Comparison Area		
	Both sexes	Male	Female	Both sexes	Male	Female
All ages	12.1	12.0	12.1	15.6	14.9	16.4
Under 1 year*	114.4	111.8	117.3	118.0	124.0	111.4
Under 1 month*	70.9	71.3	70.6	74.6	81.9	66.9
1 - 11 months*	43.5	40.5	46.6	43.3	42.1	44.6
1 - 4 years	17.1	13.7	20.8	26.2	18.5	34.5
5 - 9	3.5	3.7	3.3	6.2	5.3	7.2
10 - 14	.8	.6	1.0	1.0	.9	1.2
15 - 19	1.6	1.0	2.1	1.6	.4	2.9
20 - 24	2.2	2.7	1.7	2.7	1.1	4.3
25 - 29	2.8	2.0	3.5	1.8	.9	2.5
30 - 34	3.3	2.6	3.9	3.1	2.1	3.8
35 - 39	4.2	4.6	4.0	3.8	1.6	5.5
40 - 44	4.3	5.3	3.3	4.4	4.9	3.9
45 - 49	9.9	10.6	9.1	10.8	15.6	5.9
50 - 54	11.4	13.7	8.8	11.3	12.5	9.9
55 - 59	18.5	18.3	18.8	24.2	30.5	17.4
60 - 64	25.2	30.6	18.5	34.9	34.8	35.1
65 +	73.1	66.6	81.3	78.0	70.2	87.1

* Rate per 1,000 live births.

TABLE XVII--FERTILITY RATES BY AGE AND AREA IN MATLAB, 1979

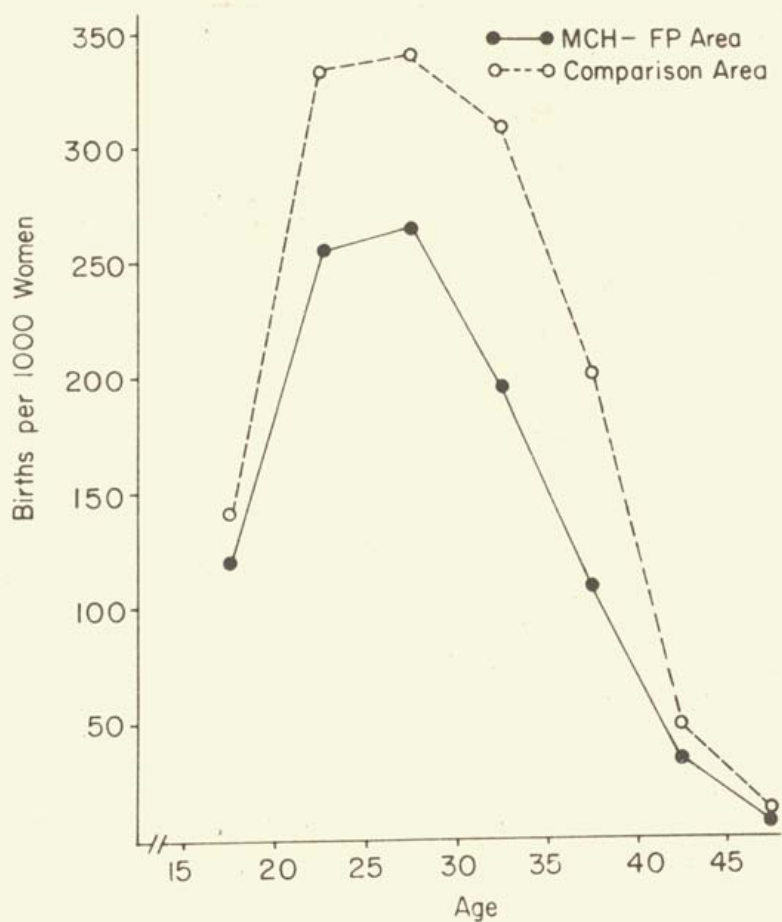
Age (year)	MCH-FP Area			Comparison Area		
	Number of live births	Number of women*	ASFR	Number of live births	Number of women*	ASFR
All ages	3129	20917	149.6	4061	19796	205.1
15 - 19**	723	6050	119.5	782	5551	140.9
20 - 24	894	3492	256.0	1167	3454	337.8
25 - 29	680	2561	265.5	804	2354	341.5
30 - 34	480	2556	187.8	720	2335	308.3
35 - 39	273	2493	109.5	471	2344	200.9
40 - 44	69	2113	32.6	98	2066	47.4
45 - 49***	10	1652	6.0	19	1692	11.2
GFR = 150			GFR = 205			
TFR = 4884			TFR = 6940			
CBR = 35			CBR = 47			

* Mid-year population.

** Births to mothers under age 15 are included in this group

*** Births to mothers of age 50 and over are included in this group.

Fig 7—AGE SPECIFIC FERTILITY RATES, MATLAB, 1979



LIST OF RETAINED VILLAGES UNDER NEW DSS, MATLAB, 1979

Original Area	MCH-FP Area				Comparison Area			
	Village ² Code	Popula- ³ tion	Village Code	Popula- tion	Village Code	Popula- tion	Village Code	Popula- tion
CDP	H	1176	V 34	707	V 35	2990	V 97	402
	K	783	V 39	324	V 37	324	V 98	185
	L	346	V 40	626	V 38	1349	V 99	634
	M	127	V 41	1179	V 45	739	VB1	1089
	N	1763	V 42	600	V 46	278	VB2	730
	O	1056	V 43	812	V 47	1555	VB3	2312
	P	1658	V 44	489	V 48	564	VB4	2350
	Q	314	V 57	933	V 49	996	VB5	655
	R	1199	V 64	4073	V 50	759	VB6	304
	V 20	932	V 82	1164	V 51	1376	VB7	163
	V 21	407	V 83	407	V 58	1112	VB8	868
	V 22	565	V 85	368	V 65	549	VB9	163
	V 23	524	V 86	648	V 66	736	D 28	1044
	V 24	2207	V 87	500	V 68	686	D 29	155
	V 26	2199	V 88	377	V 69	1038	D 30	634
	V 27	783	VB11	2118	V 70	613	D 31	939
	V 28	1093	VB12	3313	V 71	321	D 32	487
	V 30	463	VB13	3782	V 73	670	D 33	830
	V 33	693	D 100	2803	V 74	1042	D 34	1186
			D 101	1101	V 75	333	D 35	609
					V 76	1290	D 88	1729
					V 78	200	D 89	548
					V 79	292	D 90	2318
					V 80	838	D 91	978
					V 90	933	D 92	648
					V 96	434	D 95	343
							D 96	179
							D 97	527
Control ¹	D	1357	V 31	7285	A	2193	V 06	2040
	S	1024	V 32	2072	B	1585	V 07	352
	T	1315	V 52	225	C	2767	V 08	1033
	W	2154	V 54	495	F	1142	V 09	872
	V 10	1260	V 55	481	G	2041	V 14	903
	V 11	1149	V 56	1197	J	321	V 36	4174
	V 12	396	V 59	792	U	6355	V 53	2543
	V 13	667	V 60	772	V 01	672	V 95	804
	V 15	522	V 61	583	V 02	401	VB10	1421
	V 16	705	V 62	684	V 03	592	D 93	640
	V 17	1024	V 63	1900	V 04	202	D 94	823
	V 18	3180	V 67	509	V 05	2701	D 98	2359
	V 19	2906	V 72	4616			D 99	1648
	V 25	1221	V 81	511				
	V 29	624	V 84	1809				
			V 89	1203				

1 For convenience 'control' will be a key word for CDP while for MCH-FP the similar would be 'comparison'.

2 See Appendix 1 in volume 2 of this series for village names.

3 1978 census.

APPENDIX BLIFE TABLE EQUATIONS
(With usual symbols)

1. $n^q_x = \frac{n^m_x}{\frac{1}{n} + n^m_x \left\{ \frac{1}{2} + \frac{n}{12} (n^m_x - \ln C) \right\}}$
2. $l_0 = 1.0$
 $l_x = (1 - n^q_{x-n}) l_{x-n}$
3. $L_0 = 0.276l_0 + 0.724l_1$
 $L_1 = 0.410l_1 + 0.590l_2$
 $L_i = \frac{1}{2}(l_i + l_{i+1}), i = 2, 3, 4$
 $\frac{L_x}{n^m_x} = \frac{n^d_x}{n^m_x}, \text{ for } 5 \leq x \leq 60$
 $\frac{L_{65}}{\infty^m_{65}} = \frac{l_{65}}{\infty^m_{65}}, \text{ for the last age group } 65+$
4. $e^o_x = \frac{T_x}{l_x}, \text{ where } T_x = \sum_{y=x}^{\infty} L_y$

Note: As suggested in Shryock et al. (1975):
The Methods and Materials in Demography, Vol.2, p.444,
 US Dept. of Commerce, $\ln C$ has been taken (app.)
 as the value 0.095.

Table C1	Mid-year population for MCH-FP and comparison area, 1979
Table C2-a	Deaths by age and sex, 1979
Table C2-b	Deaths by age and sex in MCH-FP and comparison area, Matlab, 1979
Table C3	Deaths by age and month, 1979
Table C4	Deaths by cause, age and sex, 1979
Table C5	Terminations of pregnancies by month, 1979
Table C6	Multiple confinements, 1979
Table C7	Pregnancies by litter size and outcome, 1979
Table C8	Number of mothers who had live births in 1979 by age and number of surviving children
Table C9	Number of mothers who had live births in 1979 by age and number of previous pregnancies
Table C10	Number of women who had stillbirth by age and number of previous pregnancies, 1979
Table C11	Number of women who had miscarriages by age and number of previous pregnancies, 1979
Table C12	In and out-migration by age and sex, 1979
Table C13	In and out-migration by sex and month, 1979
Table C14-a	In-migration by cause of movement, age and sex, 1979
Table C14-b	In-migration by cause of movement, age and sex 1979
Table C15-a	Out-migration by cause of movement, sex and age, 1979
Table C15-b	Out-migration by cause of movement, sex and age, 1979
Table C16	Number of divorces in 1979 by duration of marriage at divorce and husbands age
Table C17	Marriages and divorces by month, 1979
Table C18	Divorces by age and sex, 1979

APPENDIX C

Table C1: Mid-year population for MCH-FP and comparison area, 1979

Age (Years)	MCH-FP Area			Comparison Area		
	Both Sexes	Male	Female	Both Sexes	Male	Female
All ages	89574	45116	44458	86313	43539	42774
0 - 4	13614	7040	6574	13840	7113	6727
0	2625	1343	1282	3203	1597	1606
1	2957	1500	1457	2935	1493	1442
2	3450	1788	1662	3476	1787	1689
3	2179	1138	1041	2010	1086	924
4	2403	1271	1132	2216	1150	1066
5 - 9	13635	7038	6597	12847	6747	6100
10 - 14	11993	6119	5874	11418	5829	5589
15 - 19	11741	5691	6050	11169	5618	5551
20 - 24	7160	3668	3492	7014	3560	3454
25 - 29	4997	2436	2561	4497	2143	2354
30 - 34	4490	1934	2556	4194	1859	2335
35 - 39	4442	1949	2493	4192	1848	2344
40 - 44	4188	2075	2113	4090	2024	2066
45 - 49	3443	1791	1652	3418	1726	1692
50 - 54	2903	1536	1367	2744	1437	1307
55 - 59	2158	1150	1008	2396	1247	1149
60 - 64	1703	947	756	1660	863	797
65 +	3107	1742	1365	2834	1525	1309

APPENDIX C

Table C2-a: Deaths by age and sex, 1979

Age	Both Sexes	Males	Females
All ages	2429	1189	1240
Under 1 year	837	441	396
Under 1 month	525	287	238
1-5 month	222	123	99
6-11 month	90	31	59
1 - 4 years	467	180	287
1	196	78	118
2	159	58	101
3	67	28	39
4	45	16	29
5 - 9	128	62	66
10 - 14	22	9	13
15 - 19	37	8	29
20 - 24	35	14	21
25 - 29	22	7	15
30 - 34	28	9	19
35 - 39	35	12	23
40 - 44	36	21	15
45 - 49	71	46	25
50 - 54	64	39	25
55 - 59	98	59	39
60 - 64	101	59	42
65 +	448	223	225

APPENDIX C

Table C2-b: Deaths by age and sex in MCH-FP and comparison area, Matlab, 1979

Age	MCH-FP Area			Comparison Area		
	Both sexes	Male	Female	Both sexes	Male	Female
All ages	1082	542	540	1347	647	700
Under 1 year	358	182	176	479	259	220
Under 1 month	222	116	106	303	171	132
1 - 5 month	92	53	39	130	70	60
6 - 11 month	44	13	31	46	18	28
1 - 4 year	188	78	110	279	102	177
1	80	31	49	116	47	69
2	60	26	34	99	32	67
3	31	13	18	36	15	21
4	17	8	9	28	8	20
5 - 9	48	26	22	80	36	44
10 - 14	10	4	6	12	5	7
15 - 19	19	6	13	18	2	16
20 - 24	16	10	6	19	4	15
25 - 29	14	5	9	8	2	6
30 - 34	15	5	10	13	4	9
35 - 39	19	9	10	16	3	13
40 - 44	18	11	7	18	10	8
45 - 49	34	19	15	37	27	10
50 - 54	33	21	12	31	18	13
55 - 59	40	21	19	58	38	20
60 - 64	43	29	14	58	30	28
65 +	227	116	111	221	107	114

APPENDIX C

Table C3: Deaths by age and month, 1979

Month	A g e a t d e a t h				
	All ages	Under 1 month	1-11 months	1-4 years	5 years and over
January	205	40	19	28	118
February	202	28	24	28	122
March	193	33	28	43	89
April	171	29	27	45	70
May	144	24	20	31	69
June	170	38	28	35	69
July	190	29	34	36	91
August	205	46	31	38	90
September	206	61	19	42	84
October	213	53	21	43	96
November	263	68	26	57	112
December	267	76	35	41	115
Total	2429	525	312	467	1125

Table C4: Deaths by cause, age and sex, 1979

Male																		
		Age at death (years)																
All ages	Under 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+			
1189	441	180	62	9	8	14	7	9	12	21	46	39	59	59	223			
All causes																		
Smallpox	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Measles	39	32	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Tetanus*	188	2	2	1	1	1	-	-	-	-	-	-	-	-	-	-	-	
Drowning	50	29	10	1	1	2	-	-	-	-	2	-	1	-	1	-	-	
Murder	1	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	
Suicide	2	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	
Diarrhoea acute	16	4	1	-	-	1	-	-	-	-	1	-	2	-	-	2	-	
Diarrhoea chronic	14	3	-	1	-	-	-	-	-	-	-	1	2	1	3	-	-	
Dysentery acute	47	17	2	-	7	-	-	-	-	1	2	-	5	5	1	12	-	
Dysentery chronic	63	3	18	5	1	-	-	1	1	2	3	3	2	2	2	22	-	
Child birth	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Jaundice	11	1	2	-	2	-	1	-	1	-	1	-	-	-	-	-	-	
Other	311	19	15	3	-	1	1	3	5	7	16	7	14	14	14	42	-	
Disease of G.I.**	14	-	-	-	-	-	1	-	2	-	1	1	3	2	3	-	-	
Respiratory	146	15	4	1	1	-	2	1	1	5	10	7	9	11	36	-	-	
Heart disease	13	-	-	-	-	-	-	-	-	-	-	-	2	2	1	9	-	
Liver disease	30	2	2	-	-	1	1	1	1	4	1	4	2	2	2	8	-	
Veneral disease	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Skin disease	8	2	-	-	1	-	-	-	-	-	-	1	-	-	-	-	-	
E.N.T. disease	2	-	1	-	-	-	-	-	-	-	-	-	-	-	-	1	-	
Cholera (proved)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Dropsy	71	16	3	-	-	3	-	1	-	1	5	5	5	10	19	-	-	
Rheumatism	49	-	2	-	-	-	-	1	-	1	2	5	8	9	17	-	-	
Accident	5	-	-	-	-	-	1	1	-	-	-	1	1	1	1	32	-	
Old age	35	-	-	-	-	-	-	-	-	-	-	1	1	1	1	1	-	
Fever (all forms)	71	19	9	2	1	2	-	-	1	-	2	1	2	2	3	14	-	
Unknown	3	1	-	-	-	-	-	-	-	-	-	-	-	-	1	1	-	

* Takuria, evil spirit

** Other than cholera

*** Cold, fever, cough, T.B. and asthma, etc.

APPENDIX C

Table C4 (contd.): Deaths by cause, age and sex, 1979

Cause	All ages	Age at death (years)														Under 1	All
		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+		
All causes	1240	287	66	13	29	21	15	19	23	15	25	25	39	42	225		
Smallpox	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Measles	61	46	6	-	1	-	-	-	-	-	-	-	-	-	-		
Tetanus*	171	7	5	2	1	2	-	-	1	-	-	-	-	-	-		
Drowning	25	17	6	-	-	-	-	-	-	-	-	-	-	-	-		
Murder	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Suicide	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Diarrhoea acute	31	7	5	-	-	2	1	-	2	-	-	-	1	-	-		
Diarrhoea chronic	22	1	2	-	1	-	-	-	3	-	-	-	-	-	-		
Dysentery acute	63	39	4	-	-	-	-	-	-	-	-	-	1	-	-		
Dysentery chronic	85	1	42	1	1	-	-	-	-	-	-	-	-	-	-		
Child birth	27	-	-	1	4	5	6	1	-	1	1	7	3	2	17		
Jaundice	9	1	1	1	3	1	-	-	6	-	-	-	-	-	-		
Other	284	39	7	4	7	6	3	2	6	5	5	7	8	7	30		
Disease of G.I.**	9	-	-	-	1	-	1	1	-	1	1	1	1	-	1		
Respiratory***	129	46	7	3	2	-	2	1	2	1	7	4	5	4	2		
Heart disease	11	1	-	-	-	-	-	-	-	-	-	-	-	-	-		
Liver disease	19	-	4	1	-	-	-	-	1	1	1	1	1	3	3		
Veneral disease	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Skin disease	10	3	-	-	-	-	-	-	-	-	-	-	-	-	-		
E.N.T. disease	1	-	-	-	2	1	-	-	-	-	-	-	-	-	-		
Cholera (proved)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Dropsy	102	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Rheumatism	39	31	4	-	3	1	2	4	1	2	4	-	-	11	35		
Accident	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Old age	56	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Fever (all forms)	76	22	7	1	3	2	-	1	-	-	-	1	2	1	52		
Unknown	3	-	-	-	-	-	-	1	-	-	-	-	1	4	19		

* Takuria, evil spirit

** Other than cholera

*** Cold, fever, cough, T.B. and asthma, etc.

Table C5: Terminations of pregnancies by month, 1979

Month	Pregnancy terminations			Number of live born children		
	All	Miscarriage	Stillbirth	Live Birth*	Both sexes	Males Females
All months	8071	662	291	7118	7190	3716 3474
January	599	41	23	535	539	263 276
February	529	31	19	479	482	231 251
March	596	59	20	517	524	281 243
April	529	61	12	456	457	250 207
May	544	67	19	458	461	233 228
June	536	73	12	451	454	225 229
July	582	78	26	478	487	263 224
August	598	56	31	511	518	285 233
September	668	62	28	578	589	309 280
October	940	44	30	866	872	452 420
November	1018	45	37	936	940	497 443
December	932	45	34	853	867	427 440

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

APPENDIX C

Table C6: Multiple confinements by sex and results, 1979

Sexes	Results			
	1st Child		2nd Child	
	Stillbirth	Live birth	Stillbirth	Live birth
MM	1	24	3	22
MF	-	11	-	11
FM	-	13	1	12
FF	-	30	3	27
Total	1	78	7	72

Table C7: Pregnancies by litter size and outcome, 1979

Outcome	Litter size 1 (single birth)	Litter size 2 (twin birth)			Total
		Both birth alive	One birth alive	Both birth dead	
Live birth	7040	72	6	-	7118
Stillbirth	290	-	-	1	291
Miscarriage	657	-	-	5	662
Total	7987	72	6	6	8071

APPENDIX C

Table C8: Number of mothers who had live births in 1979 by age and number of surviving children*

Age of mother	Total	Number of surviving children										
		0	1	2	3	4	5	6	7	8	9	10+
All ages	7118	1786	1354	1186	1012	750	513	283	144	59	24	7
Under 15	13	12	1	-	-	-	-	-	-	-	-	-
15 - 19	1479	1193	259	26	1	-	-	-	-	-	-	-
20 - 24	2046	524	850	526	131	13	2	-	-	-	-	-
25 - 29	1473	41	198	471	483	226	47	7	-	-	-	-
30 - 34	1192	12	40	126	307	342	243	90	29	3	-	-
35 - 39	730	2	4	29	79	148	186	154	87	29	11	1
40 - 44	159	2	2	7	9	19	30	27	24	23	11	5
45 +	26	-	-	1	2	2	5	5	4	4	2	1

* Present birth excluded.

APPENDIX C

Table C9: Number of mothers who had live births in 1979 by age and number of previous pregnancies*

Age of mother	Number of previous pregnancies											
	Total	0	1	2	3	4	5	6	7	8	9	10+
All ages	7118	1400	1149	971	898	760	604	471	344	228	144	149
Under 15	13	11	2	-	-	-	-	-	-	-	-	-
15 - 19	1479	1020	371	72	15	-	1	-	-	-	-	-
20 - 24	2046	350	688	602	294	94	13	4	-	1	-	-
25 - 29	1473	15	67	249	466	395	179	64	24	8	5	1
30 - 34	1192	3	17	38	111	218	290	249	149	69	31	17
35 - 39	730	1	2	9	7	46	109	133	143	117	89	74
40 - 44	159	-	2	1	5	6	11	17	25	26	17	49
45 +	26	-	-	-	-	1	1	4	3	7	2	8

* Present birth excluded.

APPENDIX C

Table C10: Number of women who had stillbirth by age and number of previous pregnancies*, 1979

Age (years)	Total	Number of previous pregnancies										
		0	1	2	3	4	5	6	7	8	9	10+
All ages	291	65	35	26	36	27	27	19	21	11	6	18
Under 15	1	1	-	-	-	-	-	-	-	-	-	-
15 - 19	56	41	11	4	-	-	-	-	-	-	-	-
20 - 24	69	16	17	17	11	6	2	-	-	-	-	-
25 - 29	59	6	3	3	20	9	10	7	-	1	-	-
30 - 34	55	1	3	2	3	6	12	7	11	4	2	4
35 - 39	43	-	1	-	1	5	3	5	10	5	4	9
40 - 44	6	-	-	-	1	-	-	-	-	1	-	4
45 +	2	-	-	-	-	1	-	-	-	-	-	1

* Present birth excluded.

APPENDIX C

Table C11: Number of women who had miscarriages by age and number of previous pregnancies*, 1979

Age (years)	Number of previous pregnancies											
	Total	0	1	2	3	4	5	6	7	8	9	10+
All ages	662	141	95	76	61	63	54	41	42	27	27	35
Under 15	8	8	-	-	-	-	-	-	-	-	-	-
15 - 19	148	105	37	6	-	-	-	-	-	-	-	-
20 - 24	159	25	47	45	24	13	5	-	-	-	-	-
25 - 29	115	2	10	19	26	28	14	12	3	1	-	-
30 - 34	108	1	1	6	6	16	29	18	18	6	3	4
35 - 39	84	-	-	-	3	5	4	8	18	16	17	13
40 - 44	30	-	-	-	1	1	2	2	3	4	4	13
45 +	10	-	-	-	1	-	-	1	-	-	3	5

* Present birth excluded.

APPENDIX C

Table C12: In and out migration by age and sex, 1979

Age	In-migration			Out-migration		
	Both sexes	Males	Females	Both sexes	Males	Females
All ages	5819	2621	3198	7175	3352	3823
Under 5	798	419	379	928	454	474
0	161	78	83	250	112	138
1	184	95	89	228	117	111
2	201	109	92	197	99	98
3	135	76	59	142	64	78
4	117	61	56	111	62	49
5-9	513	286	227	597	335	262
10-14	586	261	325	670	337	333
15-19	1627	318	1309	2077	635	1442
20-24	748	329	419	1213	570	643
25-29	526	325	201	558	324	234
30-34	289	204	85	324	205	119
35-39	235	157	78	231	152	79
40-44	139	100	39	159	105	54
45-49	114	92	22	113	77	36
50-54	65	39	26	92	51	41
55-59	59	30	29	57	29	28
60-64	32	24	8	65	33	32
65+	88	37	51	91	45	46

Table C13: In and out migration by sex and month, 1979

Month	In-migration			Out-migration		
	Both sexes	Males	Females	Both sexes	Males	Females
All months	5819	2621	3198	7175	3352	3823
January	1006	543	463	1073	547	526
February	580	258	322	740	343	397
March	604	237	367	757	364	393
April	451	235	216	579	292	287
May	405	182	223	590	285	305
June	445	197	248	604	266	338
July	453	180	273	465	196	269
August	400	183	217	474	212	262
September	372	152	220	483	230	253
October	376	182	194	466	206	260
November	423	165	258	505	233	272
December	304	107	197	439	178	261

Table C14-a: In-migration by cause of movement, sex and age, 1979

Cause of movement	All ages	Under 5	M A L E A g e (y e a r s)														60-64	65+
			5-9	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59					
All migrants	2621	419	286	261	318	329	325	204	157	100	92	39	30	24	37			
1. Dependent movement	870	419	280	103	17	10	18	9	8	1	1	1	1	1	1			
- dependent	837	408	277	101	15	8	10	7	6	1	1	-	-	-	-			
- to join with spouse	1	-	-	-	-	1	-	-	-	-	-	-	-	-	-			
- to join parents	15	8	2	1	-	1	3	-	-	-	-	-	-	-	-			
- to join relatives	12	1	-	-	2	-	4	2	2	-	-	1	-	-	-			
- adoption	5	2	1	1	-	-	1	-	-	-	-	-	-	-	-			
2. Independent movement	1697	-	6	156	290	304	301	188	143	96	89	38	28	23	35			
2.1 Associated with work																		
2.1.1 living condition	1150	-	6	137	215	167	172	119	108	71	66	32	14	16	27			
- service	91	-	-	-	3	12	17	13	12	10	12	4	2	2	4			
- work	43	-	-	11	16	5	6	2	2	-	1	-	-	-	-			
- business	11	-	-	-	1	2	2	2	2	1	-	-	1	-	-			
- better living	538	-	-	52	91	64	96	54	60	39	31	19	8	9	15			
- for livelihood	334	-	-	39	52	50	47	47	32	20	22	9	3	5	8			
- study	133	-	6	35	52	34	4	1	-	1	-	-	-	-	-			
2.2 Associated with marriage	28	-	-	10	1	4	10	1	1	-	-	-	-	1	-			
- marriage	19	-	-	1	1	4	10	1	1	-	-	-	-	1	-			
- divorce	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
- widow	9	-	-	9	-	-	-	-	-	-	-	-	-	-	-			
- separation	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
2.3 Return migration	505	-	-	9	73	129	117	63	34	24	23	6	13	6	8			
- after study	6	-	-	1	2	2	1	-	-	-	-	-	-	-	-			
- after service	105	-	-	3	22	27	16	12	4	2	6	-	5	4	4			
- after work	23	-	-	4	6	4	2	1	2	1	1	-	2	-	2			
- return home	135	-	-	1	22	32	29	21	7	10	5	4	2	-	2			
- regular member of family	236	-	-	-	21	64	69	29	21	11	11	2	6	2	-			
2.4 Others	14	-	-	-	1	4	2	5	-	1	-	-	1	-	-			
3. Change in residence	50	-	-	2	11	14	6	6	5	3	1	-	1	-	1			
4. For treatment	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
5. Not stated	4	-	-	-	-	1	-	1	1	-	1	-	-	-	-			

Table C14-b: In-migration by cause of movement, sex and age, 1979

Cause of movement	All ages	Under 5	F E M A L E A g e (y e a r s)													65+
			5-9	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64		
All migrants	3198	379	227	325	1309	419	201	85	78	39	22	26	29	8	51	
1. Dependent movement	1296	379	224	151	180	127	90	43	45	23	6	9	9	1	9	
- dependent	1211	362	221	144	141	114	88	41	45	23	6	9	8	1	8	
- to join with spouse	50	-	-	2	35	12	1	-	-	-	-	-	-	-	-	
- to join parents	11	3	1	2	3	1	-	1	-	-	-	-	-	-	-	
- to join relatives	8	1	-	2	1	-	1	1	-	-	-	-	1	-	1	
- adoption	16	13	2	1	-	-	-	-	-	-	-	-	-	-	-	
2. Independent movement	1839	-	3	165	1107	282	103	39	30	15	15	17	19	7	37	
2.1 Associated with work and living condition	642	-	3	87	203	137	63	26	22	14	14	15	17	7	34	
- service	3	-	-	-	2	-	1	-	-	-	-	-	-	-	-	
- work	17	-	-	15	1	-	1	-	-	-	-	-	-	-	-	
- business	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
- better living	320	-	-	32	103	82	24	16	13	9	8	5	8	3	17	
- for livelihood	277	-	-	27	88	55	37	10	9	5	6	10	9	4	17	
- study	25	-	3	13	9	-	-	-	-	-	-	-	-	-	-	
2.2 Associated with marriage	1125	-	-	69	875	130	36	11	4	-	-	-	-	-	-	
- marriage	891	-	-	61	749	49	21	7	4	-	-	-	-	-	-	
- divorce	119	-	-	4	60	48	6	1	-	-	-	-	-	-	-	
- widow	5	-	-	1	-	2	2	-	-	-	-	-	-	-	-	
- separation	110	-	-	3	66	31	7	3	-	-	-	-	-	-	-	
2.3 Return migration	61	-	-	7	21	14	4	2	4	1	1	2	2	-	3	
- after study	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
- after service	1	-	-	-	-	1	-	-	-	-	-	-	-	-	-	
- after work	4	-	-	3	1	-	-	-	-	-	-	-	-	-	-	
- return home	54	-	-	4	20	12	4	2	4	1	1	1	2	-	3	
- regular member of family	2	-	-	-	-	1	-	-	-	-	-	1	-	-	-	
2.4 Others	11	-	-	2	8	1	-	-	-	-	-	-	-	-	-	
3. Change in residence	61	-	-	9	22	8	8	3	3	1	1	-	1	-	5	
4. For treatment	1	-	-	-	-	1	-	-	-	-	-	-	-	-	-	
5. Not stated	1	-	-	-	-	1	-	-	-	-	-	-	-	-	-	

Table C15-a: Out-migration by cause of movement, sex and age, 1979

Cause of movement	All ages	Under 5	A g e (y e a r s)												55-59	60-64	65+
			5	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	51	29	33	45
All migrants	3352	454	335	337	635	570	324	205	152	105	77	51	29	33	45		
1. Dependent movement	983	454	323	130	35	9	12	9	5	1	2	2	1	2			
- dependent	949	445	318	122	30	7	10	8	4	1	2	2	1	1	1		
- to join with spouse	6	-	-	1	3	1	1	-	-	-	-	-	-	-	-	-	-
- to join parents	12	2	3	5	2	-	-	-	-	-	-	-	-	-	-	-	-
- to join relatives	8	1	2	2	-	1	1	1	1	-	-	-	-	-	-	-	-
- adoption	8	6	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2. Independent movement	2307	-	12	200	587	551	301	192	142	103	70	50	26	32	41		
2.1 Associated with work and livin condition	2250	-	12	195	576	540	294	191	135	98	67	49	26	30	37		
- service	768	-	-	21	216	245	112	63	32	33	20	9	7	5	5		
- work	168	-	-	43	71	32	9	3	3	2	2	2	2	-	1		
- business	122	-	-	8	40	28	13	8	5	8	5	4	1	2	-		
- better living	652	-	-	49	113	109	110	70	61	44	26	23	13	16	18		
- for livelihood	300	-	-	34	47	45	38	42	34	11	13	11	5	7	13		
- study	240	-	12	40	89	81	12	5	-	-	1	-	-	-	-		
2.2 Associated with marriage	7	-	-	-	-	1	3	-	1	-	-	2	-	-	-		
- marriage	1	-	-	-	-	1	-	-	-	-	-	-	-	-	-		
- divorce	4	-	-	-	-	-	2	-	-	-	-	2	-	-	-		
- widow	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
- separation	2	-	-	-	-	-	1	-	1	-	-	-	-	-	-		
2.3 Return migration	39	-	-	4	8	8	3	1	4	4	1	1	1	2	3		
- after study	4	-	-	-	2	-	1	-	-	1	-	-	-	-	-		
- after service	6	-	-	2	-	2	-	-	1	-	-	-	-	-	-		
- after work	1	-	-	-	-	1	-	-	-	-	-	-	-	-	-		
- return home	27	-	-	2	6	5	2	1	3	3	1	1	-	-	2	2	
- regular member of family	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
2.4 Others	11	-	-	1	3	2	1	-	2	1	1	1	-	-	-		
3. Change in residence	49	-	-	6	10	10	6	3	4	1	4	1	1	1	1	2	
4. For treatment	4	-	-	-	2	-	1	-	-	-	1	-	-	-	-		
5. Not stated	9	-	-	1	1	-	4	1	1	-	-	-	-	-	-		

Table C15-b: Out-migration by cause of movement, sex and age, 1979

Cause. of movement	All ages	F E M A L E A g e (y e a r s)														65+
		Under 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		
All migrants	3823	474	262	333	1442	643	234	119	79	54	36	41	28	32	46	
1. Dependent movement	1669	474	256	161	277	164	119	62	35	30	18	19	13	25	16	
- dependent	1498	462	252	152	197	123	107	60	31	29	18	19	13	21	14	
- to join with spouse	129	-	-	3	69	38	12	1	4	1	-	-	-	-	1	
- to join parents	14	3	3	5	3	-	-	-	-	-	-	-	-	4	1	
- to join relatives	17	-	-	1	7	3	-	-	-	-	-	-	-	-	-	
- adoption	11	9	1	-	1	-	-	-	43	22	18	21	15	7	30	
2. Independent movement	2133	-	6	170	1154	476	115	56	43	22	17	18	15	7	30	
2.1 Associated with work and living condition	820	-	6	100	235	206	87	44	37	18	17	18	15	7	30	
- service	27	-	-	3	14	8	-	-	1	-	1	-	-	-	1	
- work	63	-	-	28	24	5	1	1	1	1	-	-	-	-	-	
- business	2	-	-	-	1	-	-	-	-	-	-	-	-	-	-	
- better living	420	-	-	30	119	108	48	21	22	15	12	8	10	5	22	
- for livelihood	263	-	-	18	64	81	37	22	12	2	4	10	4	2	7	
- study	45	-	6	21	13	4	1	-	-	-	-	3	-	-	-	
2.2 Associated with marriage	1276	-	-	63	907	256	27	12	4	3	1	1	-	-	-	
- marriage	1077	-	-	53	778	223	17	2	2	2	1	1	-	-	-	
- divorce	100	-	-	5	61	18	7	6	-	-	-	-	-	-	-	
- widow	1	-	-	-	1	-	-	-	2	1	-	-	-	-	-	
- separation	98	-	-	5	67	15	3	4	-	-	-	-	-	-	-	
2.3 Return migration	29	-	-	7	8	13	1	-	-	-	-	-	-	-	-	
- after study	1	-	-	1	-	-	-	-	-	-	-	-	-	-	-	
- after service	2	-	-	2	-	-	-	-	-	-	-	-	-	-	-	
- after work	25	-	-	4	8	12	1	-	-	-	-	-	-	-	-	
- return home	1	-	-	-	-	1	-	-	-	-	-	-	-	-	-	
- regular member of family	8	-	-	-	4	1	-	-	2	1	-	1	-	-	-	
2.4 Others	15	-	-	2	6	3	-	-	1	1	-	-	-	-	-	
3. Change in residence	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
4. For treatment	1	-	-	-	1	-	-	-	-	-	-	-	-	-	-	
5. Not stated	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

APPENDIX C

Table C16: Number of divorces in 1979 by duration of marriage at divorce and husband's age

Husband's age at time of divorce	Duration of marriages (months)									
	All duration	Less than 6	6-11	12-23	24-35	36-47	48-59	60+	Mean	Median
All ages	557	141	94	139	70	40	12	61	23.2	15.9
15 - 24	163	38	38	52	24	7	2	2	17.0	13.4
25 - 29	193	50	30	52	29	14	3	15	21.7	16.2
30 - 34	90	21	12	17	10	13	5	12	27.8	21.0
35 - 39	54	12	7	7	6	2	-	20	36.1	27.0
40 - 44	20	8	1	3	1	1	2	4	27.9	18.0
45 +	37	12	6	8	-	3	-	8	25.8	12.0

Table C17: Marriages and divorces by month, 1979

Month	Marriages	Divorces
All months	3278	557
January	244	60
February	431	56
March	505	55
April	140	39
May	274	45
June	383	51
July	290	36
August	180	47
September	179	36
October	141	41
November	249	47
December	262	44

Table C18: Divorces by age and sex, 1979

Age	Males	Females
All ages	557	557
Under 15	-	18
15 - 19	24	319
20 - 24	139	164
25 - 29	193	28
30 - 34	90	19
35 - 39	54	3
40 - 44	19	4
45 - 49	18	-
50 - 54	7	1
55 - 59	4	1
60 - 64	2	-
65 +	7	-
Mean	29.9	20.3
Median	28.0	19.1

1979

STAFF OF THE DEMOGRAPHIC SURVEILLANCE SYSTEMMatlab Field StationSupervisor

A.M. Sarder

Assistant Supervisors

Abdul Gaffur Sarker
A.K.M. Nurul Islam
Md. Khalilur Rahman I

Senior Field Assistants

Md. Liaquat Ali
Md. Ismail
Kazi Matiur Rahman
Abdul Momen
Md. Rajab Ali
Md. Kashem Ali

Field Assistants

Md. Zahirul Hoque
Abdur Rashid Mia
Abdul Latif Patwary
Md. Abul Kashem
Idrish Ali Mia II
Md. Nurul Hoque
M.A. Latif
Paresh Ch. Chakraborty
Abdul Baten
K.M. Mokbul Hossain
Md. Serajul Hoque
K.J.M. Mannan Pathan

Recorder

Monowara Begum

Clerk

A.K.M. Mozibul Hoque

Data Management Branch, DaccaSorting/Tabulation/Computation

Md. Golam Mostafa

Coding/Checking

Anjumand Sultana
Hosne Ara Begum
Lutfun Nahar

Computer Information ServicesProgramming:

Md. Ibrahim Mollah

Data entry:

Rafiq-ud-dawla
Rahima Akhtar
S.M. Yead Ali

N.B. Besides these 110 Female Workers contributed in collecting the Demographic information.

ERRATUM

In Table 5 (page 6) of the report of 1976* under DSS series $1000 m_{n \times}$ values were placed under the level $1000 q_{n \times}$ and $n q_x$ were left out. The Table below gives sexwise $1000 q_{n \times}$ values for the same Table.

Age	M a l e s	F e m a l e s
	$1000 q_{n \times}$	$1000 q_{n \times}$
0	113.6	110.3
1	40.0	54.4
2	29.1	35.9
3	20.2	27.7
4	12.9	17.4
5	22.7	29.6
10	5.6	7.3
15	5.0	12.4
20	10.8	15.2
25	10.2	13.0
30	18.1	12.9
35	18.4	20.0
40	38.6	17.8
45	41.1	35.1
50	89.7	58.3
55	94.2	83.5
60	184.8	190.7
65 +	1000.0	1000.0

* Ruzicka LT, Chowdhury AKMA. Demographic surveillance system-Matlab. Volume 5. Vital events, migration and marriages 1976. Dacca: International Centre for Diarrhoeal Disease Research, Bangladesh, 1978 (Scientific report no. 13).

ICDDR,B PUBLICATIONS*

A. Annual Report:

5. Annual Report 1980. 103 p.

B. Working Paper:

26. Horton S, Claquin P. Cost effectiveness study of hospital and of ambulance services at Matlab Treatment Centre. May 1982. 52 p.

C. Scientific Report:

55. Becker S, Razzaque MA, Sarder AM. Demographic Surveillance System - Matlab. Volume Eight. Census Update 1978. Apr 1982. 31 p.

D. Special Publication:

18. Claquin P, Claquin B, Rahman S, Razzaque MA, Shaikh K, Chowdhury TR, Kanawati NH. An evaluation of the Government training programme of traditional birth attendants. May 1982. 78 p.

E. Monograph:

2. Maloney C, Aziz KMA, Sarker PC. Beliefs and fertility in Bangladesh. Dec 1981. 385 p. (Price: US\$ 30.00/£ 15.00).

F. Thesis and Dissertation:

3. Shahid NS. Complications of measles in rural Bangladesh (Long-term complications in the under-two). June 1981. 38 p.

G. Newsletter:

Glimpse: ICDDR,B Newsletter. Vol. 1, Jan 1979-

* List of previous publications, such as, annual reports, working papers, scientific reports, special publications and thesis and dissertations, can be obtained on request. For further information, write to Head, Library and Publication Branch, International Centre for Diarrhoeal Disease Research, Bangladesh, G.P.O. Box 128, Dacca 2, Bangladesh.